GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 26, 2003, 00:49:28 ; Search time 21 Seconds
(without alignments)
435.197 Million cell updates/sec

Title: US-09-666-267B-8
Perfect score: 1149
Sequence: 1 GLSHFCSGVIHVTKEVKEVA.....LRVNQTFNWNTTKQEHFPDN 216

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	1149	100.0	288	2	US-08-147-772-2	Sequence 2, Appli
2	1149	100.0	288	2	US-08-456-104-6	Sequence 6, Appli
3	1149	100.0	288	2	US-08-101-624-23	Sequence 23, Appl
4	1149	100.0	288	2	US-08-751-767A-6	Sequence 6, Appli
5	1149	100.0	288	3	US-08-153-262-2	Sequence 2, Appli
6	1149	100.0	288	3	US-08-479-744A-29	Sequence 29, Appl
7	1149	100.0	288	3	US-08-280-757B-29	Sequence 29, Appl
8	1149	100.0	288	3	US-09-159-135-2	Sequence 2, Appli
9	1149	100.0	288	3	US-08-205-697A-19	Sequence 19, Appl
10	1149	100.0	288	3	US-08-702-525-19	Sequence 19, Appl
11	1149	100.0	288	4	US-09-450-798-2	Sequence 2, Appli
12	1149	100.0	288	4	US-08-403-253A-2	Sequence 2, Appli
13	1149	100.0	288	4	US-09-651-200-13	Sequence 13, Appl
14	1149	100.0	288	4	US-09-667-135-34	Sequence 34, Appl
15	1149	100.0	288	4	US-08-435-816A-2	Sequence 2, Appli
16	1149	100.0	288	5	PCT-US95-02576-19	Sequence 19, Appl
17	1149	100.0	473	3	US-09-171-945-131	Sequence 131, App
18	1102	95.9	208	4	US-09-460-384-36	Sequence 36, Appl
19	1100	95.7	288	4	US-09-651-200-14	Sequence 14, Appl
20	1050	91.4	208	3	US-08-630-172-15	Sequence 15, Appl
21	1050	91.4	208	3	US-09-375-419-15	Sequence 15, Appl
22	743	64.7	292	4	US-09-651-200-16	Sequence 16, Appl
23	743	64.7	292	4	US-09-303-040-2	Sequence 2, Appli
24	739	64.3	292	4	US-09-303-040-4	Sequence 4, Appli
25	738	64.2	299	4	US-09-651-200-15	Sequence 15, Appl
26	561	48.8	306	3	US-08-205-697A-17	Sequence 17, Appl
27	561	48.8	306	3	US-08-702-525-17	Sequence 17, Appl
28	561	48.8	306	4	US-09-651-200-17	Sequence 17, Appl
29	561	48.8	306	4	US-09-667-135-35	Sequence 35, Appl
30	561	48.8	306	5	PCT-US95-02576-17	Sequence 17, Appl
31	561	48.8	320	3	US-08-205-697A-2	Sequence 2, Appli
32	561	48.8	320	3	US-08-702-525-2	Sequence 2, Appli
33	561	48.8	320	5	PCT-US95-02576-2	Sequence 2, Appli
34	558	48.6	306	2	US-08-147-772-4	Sequence 4, Appli
35	558	48.6	306	2	US-08-456-104-8	Sequence 8, Appli
36	558	48.6	306	2	US-08-101-624-25	Sequence 25, Appl
37	558	48.6	306	3	US-08-153-262-4	Sequence 4, Appli
38	558	48.6	306	3	US-08-479-744A-31	Sequence 31, Appl
39	558	48.6	306	3	US-08-280-757B-31	Sequence 31, Appl
40	558	48.6	306	3	US-09-159-135-4	Sequence 4, Appli
41	558	48.6	306	4	US-09-450-798-4	Sequence 4, Appli
42	311	27.1	200	3	US-08-205-697A-9	Sequence 9, Appli
43	311	27.1	200	3	US-08-702-525-9	Sequence 9, Appli
44	311	27.1	200	5	PCT-US95-02576-9	Sequence 9, Appli
45	311	27.1	214	3	US-08-205-697A-11	Sequence 11, Appl

ALIGNMENTS

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RESULT 1
US-08-147-772-2
; Sequence 2, Application US/08147772
; Patent No. 5858776
;  GENERAL INFORMATION:
;    APPLICANT:  Ostrand-Rosenberg, Suzanne
;    APPLICANT:  Baskar, Sivasubramanian
;    APPLICANT:  Glimcher, Laurie H.
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    TITLE OF INVENTION:  Tumor Cells With Increased Immunogenicity
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/147,772
;      FILING DATE:
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E.
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  RPI-003
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 227-7400
;      TELEFAX:  (617) 227-5941
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;      DESCRIPTION:  B cell activation antigen; natural ligand
;      DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;    FEATURE:
;      NAME/KEY:  signal sequence
;      LOCATION:  -34 to -1
;      IDENTIFICATION METHOD:  amino terminal sequencing of
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;       IDENTIFICATION METHOD:  soluble protein
;       OTHER INFORMATION:  hydrophobic
;     FEATURE:
;       NAME/KEY:  extracellular domain
;       LOCATION:  1 to 208
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  transmembrane domain
;       LOCATION:  209 to 235
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;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  intracellular domain
;       LOCATION:  236 to 254
;       IDENTIFICATION METHOD:  similarity with known
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;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  19 to 21
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;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  55 to 57
;       IDENTIFICATION METHOD:  similarity with known
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;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  64 to 66
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  152 to 154
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;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  173 to 175
;       IDENTIFICATION METHOD:  similarity with known
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;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  177 to 179
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  192 to 194
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  198 to 200
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  Ig V-set domain
;       LOCATION:  1 to 104
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  Ig C-set domain
;       LOCATION:  105 to 202
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     PUBLICATION INFORMATION:
;       AUTHORS:  FREEMAN, GORDON J.
;       AUTHORS:  FREEDMAN, ARNOLD S.
;       AUTHORS:  SEGIL, JEFFREY M.
;       AUTHORS:  LEE, GRACE
;       AUTHORS:  WHITMAN, JAMES F.
;       AUTHORS:  NADLER, LEE M.
;       TITLE:  B7, A New Member Of The Ig Superfamily With
;       TITLE:  Unique Expression On Activated And Neoplastic B Cells
;       JOURNAL:  The Journal of Immunology
;       VOLUME:  143
;       ISSUE:  8
;       PAGES:  2714-2722
;       DATE:  15-OCT-1989
;       RELEVANT RESIDUES IN SEQ ID NO:  2: From -26 to 262
US-08-147-772-2

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  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 2
US-08-456-104-6
; Sequence 6, Application US/08456104
; Patent No. 5861310
;  GENERAL INFORMATION:
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    APPLICANT:  Gray, Gary S.
;    TITLE OF INVENTION:  TUMOR CELLS MODIFIED TO EXPRESS B7-2 AND B7-3 WITH INCREASED
;    NUMBER OF SEQUENCES:  8
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/456,104
;      FILING DATE:
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/101,624;
;      FILING DATE:  26-JUL-1993;
;      APPLICATION NUMBER:  08/109,393;
;      APPLICATION NUMBER:  19-AUG-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E.
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  RPI-008
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 227-7400
;      TELEFAX:  (617) 227-5941
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
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;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-08-456-104-6

  Query Match             100.0%;  Score 1149;  DB 2;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 3
US-08-101-624-23
; Sequence 23, Application US/08101624
; Patent No. 5942607
;  GENERAL INFORMATION:
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    APPLICANT:  Gray, Gary S.
;    TITLE OF INVENTION:  No. 5942607el CTLA4/CD28 Ligands and
;    TITLE OF INVENTION:  Uses Therefor
;    NUMBER OF SEQUENCES:  25
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/101,624
;      FILING DATE:  26-JUL-1993
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E.
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  RPI-004
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 227-7400
;      TELEFAX:  (617) 227-5941
;  INFORMATION FOR SEQ ID NO:  23:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;      DESCRIPTION:  B cell activation antigen; natural ligand
;      DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;    FEATURE:
;      NAME/KEY:  signal sequence
;      LOCATION:  -34 to -1
;      IDENTIFICATION METHOD:  amino terminal sequencing of
;      IDENTIFICATION METHOD:  soluble protein
;      OTHER INFORMATION:  hydrophobic
;    FEATURE:
;      NAME/KEY:  extracellular domain
;      LOCATION:  1 to 208
;      IDENTIFICATION METHOD:  similarity with known
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;    FEATURE:
;      NAME/KEY:  transmembrane domain
;      LOCATION:  209 to 235
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  intracellular domain
;      LOCATION:  236 to 254
;      IDENTIFICATION METHOD:  similarity with known
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;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  19 to 21
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  55 to 57
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  64 to 66
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;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  152 to 154
;      IDENTIFICATION METHOD:  similarity with known
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;      LOCATION:  173 to 175
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;      LOCATION:  177 to 179
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;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  192 to 194
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;      NAME/KEY:  Ig V-set domain
;      LOCATION:  1 to 104
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;      NAME/KEY:  Ig C-set domain
;      LOCATION:  105 to 202
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    PUBLICATION INFORMATION:
;      AUTHORS:  FREEMAN, GORDON J.
;      AUTHORS:  FREEDMAN, ARNOLD S.
;      AUTHORS:  SEGIL, JEFFREY M.
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;       AUTHORS:  LEE, GRACE
;       AUTHORS:  WHITMAN, JAMES F.
;       AUTHORS:  NADLER, LEE M.
;       TITLE:  B7, A New Member Of The Ig Superfamily With
;       TITLE:  Unique Expression On Activated And Neoplastic B Cells
;       JOURNAL:  The Journal of Immunology
;       VOLUME:  143
;       ISSUE:  8
;       PAGES:  2714-2722
;       DATE:  15-OCT-1989
;       RELEVANT RESIDUES IN SEQ ID NO:  23: From -26 to 262
US-08-101-624-23

  Query Match             100.0%;  Score 1149;  DB 2;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 4
US-08-751-767A-6
; Sequence 6, Application US/08751767A
; Patent No. 5994104
;  GENERAL INFORMATION:
;    APPLICANT:  ANDERSON, ROBERT J.
;    APPLICANT:  GRANT, HUGH
;    APPLICANT:  MACDONALD, IAN D.
;    TITLE OF INVENTION:  INTERLUKIN-12 FUSION PROTEIN
;    NUMBER OF SEQUENCES:  80
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  NIXON & VANDERHYE P.C.
;      STREET:  1100 NORTH GLEBE ROAD
;      CITY:  ARLINGTON
;      STATE:  VA
;      COUNTRY:  USA
;      ZIP:  22201
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/751,767A
;      FILING DATE:  08-NOV-1996
;      CLASSIFICATION:  536
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  SADOFF, B.J.
;      REGISTRATION NUMBER:  36,663
;      REFERENCE/DOCKET NUMBER:  117-221
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  7038164091
;      TELEFAX:  7038164100
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-751-767A-6

  Query Match             100.0%;  Score 1149;  DB 2;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 5
US-08-153-262-2
; Sequence 2, Application US/08153262
; Patent No. 6071716
;  GENERAL INFORMATION:
;    APPLICANT:  FREEMAN, GORDON J.
;    APPLICANT:  FREEDMAN, ARNOLD S.
;    APPLICANT:  NADLER, LEE M.
;    TITLE OF INVENTION:  DNA Encoding B7, A New Member
;    TITLE OF INVENTION:  Of The IgG Superfamily With Unique Expression On
;    TITLE OF INVENTION:  Activated And Neoplastic B Cells.
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  The Dana-Farber Cancer Institute
;      STREET:  44 Binney Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02115
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.50 inch, 720kb storage
;      COMPUTER:  IBM Personal System 2; Model 30
;      OPERATING SYSTEM:  MS/DOS
;      SOFTWARE:  WordPerfect 5.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/153,262
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/751,306
;      FILING DATE:  28-AUG-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  HART, JULIA D.
;      REGISTRATION NUMBER:  33132
;      REFERENCE/DOCKET NUMBER:  DFCI-116.1
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (203) 255-8900
;      TELEFAX:  (203) 259-2846
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;      DESCRIPTION:  B cell activation antigen; natural ligand
;      DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;    FEATURE:
;      NAME/KEY:  signal sequence
;      LOCATION:  -34 to -1
;      IDENTIFICATION METHOD:  amino terminal sequencing of
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; IDENTIFICATION METHOD: soluble protein
; OTHER INFORMATION: hydrophobic
; FEATURE:
; NAME/KEY: extracellular domain
; LOCATION: 1 to 208
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: transmembrane domain
; LOCATION: 209 to 235
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: intracellular domain
; LOCATION: 236 to 254
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 19 to 21
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 55 to 57
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 64 to 66
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 152 to 154
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 173 to 175
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 177 to 179
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 192 to 194
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 198 to 200
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: Ig V-set domain
; LOCATION: 1 to 104
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: Ig C-set domain
; LOCATION: 105 to 202
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; PUBLICATION INFORMATION:
; AUTHORS: FREEMAN, GORDON J.
; AUTHORS: FREEDMAN, ARNOLD S.
; AUTHORS: SEGIL, JEFFREY M.
; AUTHORS: LEE, GRACE
; AUTHORS: WHITMAN, JAMES F.
; AUTHORS: NADLER, LEE M.
; TITLE: B7, A New Member Of The Ig Superfamily With
; TITLE: Unique Expression On Activated And Neoplastic B Cells
; JOURNAL: The Journal of Immunology
; VOLUME: 143
; ISSUE: 8
; PAGES: 2714-2722
; DATE: 15-OCT-1989
; RELEVANT RESIDUES IN SEQ ID NO: 2: From -26 to 262
US-08-153-262-2

Query Match 100.0%; Score 1149; DB 3; Length 288;
Best Local Similarity 100.0%; Pred. No. 7e-113;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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RESULT 6
US-08-479-744A-29
; Sequence 29, Application US/08479744A
; Patent No. 6084067
; GENERAL INFORMATION:
; APPLICANT: Freeman, Gordon J.
; APPLICANT: Nadler, Lee M.
; APPLICANT: Gray, Gary S.
; TITLE OF INVENTION: No. 6084067el CTLA4/CD28 Ligands and
; TITLE OF INVENTION: Uses Therefor
; NUMBER OF SEQUENCES: 55
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHIVE & COCKFIELD, LLP
; STREET: 60 State Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/479,744A
; FILING DATE: June 7, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/280,757
; FILING DATE: 26-JUL-1994
; APPLICATION NUMBER: 08/109,393
; FILING DATE: 28-AUG-1993
; APPLICATION NUMBER: 08/101,624
; FILING DATE: 26-JULY-1993
; APPLICATION NUMBER: 08/147,773
; FILING DATE: 3-NOV-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
; REGISTRATION NUMBER: 36,207
; REFERENCE/DOCKET NUMBER: RPI-004CP3
; TELECOMMUNICATION INFORMATION:

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;       TELEPHONE:  (617) 227-7400
;       TELEFAX:  (617) 227-5941
;    INFORMATION FOR SEQ ID NO:  29:
;      SEQUENCE CHARACTERISTICS:
;        LENGTH:  288 amino acids
;        TYPE:  amino acid
;        TOPOLOGY:  linear
;      MOLECULE TYPE:  protein
;        DESCRIPTION:  B cell activation antigen; natural ligand
;        DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;      FEATURE:
;        NAME/KEY:  signal sequence
;        LOCATION:  -34 to -1
;        IDENTIFICATION METHOD:  amino terminal sequencing of
;        IDENTIFICATION METHOD:  soluble protein
;        OTHER INFORMATION:  hydrophobic
;      FEATURE:
;        NAME/KEY:  extracellular domain
;        LOCATION:  1 to 208
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  transmembrane domain
;        LOCATION:  209 to 235
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  intracellular domain
;        LOCATION:  236 to 254
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  19 to 21
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  55 to 57
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  64 to 66
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  152 to 154
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  173 to 175
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  177 to 179
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  192 to 194
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  N-linked glycosylation
;        LOCATION:  198 to 200
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  Ig V-set domain
;        LOCATION:  1 to 104
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      FEATURE:
;        NAME/KEY:  Ig C-set domain
;        LOCATION:  105 to 202
;        IDENTIFICATION METHOD:  similarity with known
;        IDENTIFICATION METHOD:  sequence
;      PUBLICATION INFORMATION:
;        AUTHORS:  FREEMAN, GORDON J.
;        AUTHORS:  FREEDMAN, ARNOLD S.
;        AUTHORS:  SEGIL, JEFFREY M.
;        AUTHORS:  LEE, GRACE
;        AUTHORS:  WHITMAN, JAMES F.
;        AUTHORS:  NADLER, LEE M.
;        TITLE:  B7, A New Member Of The Ig Superfamily With
;        TITLE:  Unique Expression On Activated And Neoplastic B Cells
;        JOURNAL:  The Journal of Immunology
;        VOLUME:  143
;        ISSUE:  8
;        PAGES:  2714-2722
;        DATE:  15-OCT-1989
;        RELEVANT RESIDUES IN SEQ ID NO:  29: From -26 to 262
US-08-479-744A-29

  Query Match             100.0%;  Score 1149;  DB 3;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 7
US-08-280-757B-29
; Sequence 29, Application US/08280757B
; Patent No. 6130316
;  GENERAL INFORMATION:
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    APPLICANT:  Gray, Gary S.
;    APPLICANT:  Greenfield, Edward
;    TITLE OF INVENTION:  No. 6130316el CTLA4/CD28 Ligands and
;    TITLE OF INVENTION:  Uses Therefor
;    NUMBER OF SEQUENCES:  53
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/280,757B
;      FILING DATE:  26-JUL-1994
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;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/101,624
;       FILING DATE:  26-JULY-1993
;       APPLICATION NUMBER:  08/109,393
;       FILING DATE:  19-AUG-1993
;       APPLICATION NUMBER:  08/147,773
;       FILING DATE:  3-NOV-1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Mandragouras, Amy E.
;       REGISTRATION NUMBER:  36,207
;       REFERENCE/DOCKET NUMBER:  RPI-004CP2
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 227-7400
;       TELEFAX:  (617) 227-5941
;   INFORMATION FOR SEQ ID NO:  29:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  288 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
;       DESCRIPTION:  B cell activation antigen; natural ligand
;       DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;     FEATURE:
;       NAME/KEY:  signal sequence
;       LOCATION:  -34 to -1
;       IDENTIFICATION METHOD:  amino terminal sequencing of
;       IDENTIFICATION METHOD:  soluble protein
;       OTHER INFORMATION:  hydrophobic
;     FEATURE:
;       NAME/KEY:  extracellular domain
;       LOCATION:  1 to 208
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  transmembrane domain
;       LOCATION:  209 to 235
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  intracellular domain
;       LOCATION:  236 to 254
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  19 to 21
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  55 to 57
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  64 to 66
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  152 to 154
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  173 to 175
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  177 to 179
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  192 to 194
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  198 to 200
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  Ig V-set domain
;       LOCATION:  1 to 104
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  Ig C-set domain
;       LOCATION:  105 to 202
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     PUBLICATION INFORMATION:
;       AUTHORS:  FREEMAN, GORDON J.
;       AUTHORS:  FREEDMAN, ARNOLD S.
;       AUTHORS:  SEGIL, JEFFREY M.
;       AUTHORS:  LEE, GRACE
;       AUTHORS:  WHITMAN, JAMES F.
;       AUTHORS:  NADLER, LEE M.
;       TITLE:  B7, A New Member Of The Ig Superfamily With
;       TITLE:  Unique Expression On Activated And Neoplastic B Cells
;       JOURNAL:  The Journal of Immunology
;       VOLUME:  143
;       ISSUE:  8
;       PAGES:  2714-2722
;       DATE:  15-OCT-1989
;       RELEVANT RESIDUES IN SEQ ID NO:  29: From -26 to 262
US-08-280-757B-29

  Query Match           100.0%;  Score 1149;  DB 3;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 8
US-09-159-135-2
; Sequence 2, Application US/09159135
; Patent No. 6149905
;  GENERAL INFORMATION:
;    APPLICANT:  Ostrand-Rosenberg, Suzanne
;    APPLICANT:  Baskar, Sivasubramanian
;    APPLICANT:  Glimcher, Laurie H.
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    TITLE OF INVENTION:  Tumor Cells With Increased Immunogenicity
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
```

```
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/159,135
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/147,772
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E.
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  RPI-003
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 227-7400
;      TELEFAX:  (617) 227-5941
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;      DESCRIPTION:  B cell activation antigen; natural ligand
;      DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;    FEATURE:
;      NAME/KEY:  signal sequence
;      LOCATION:  -34 to -1
;      IDENTIFICATION METHOD:  amino terminal sequencing of
;      IDENTIFICATION METHOD:  soluble protein
;      OTHER INFORMATION:  hydrophobic
;    FEATURE:
;      NAME/KEY:  extracellular domain
;      LOCATION:  1 to 208
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  transmembrane domain
;      LOCATION:  209 to 235
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  intracellular domain
;      LOCATION:  236 to 254
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  19 to 21
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  55 to 57
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  64 to 66
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  152 to 154
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  173 to 175
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  177 to 179
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  192 to 194
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  N-linked glycosylation
;      LOCATION:  198 to 200
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  Ig V-set domain
;      LOCATION:  1 to 104
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    FEATURE:
;      NAME/KEY:  Ig C-set domain
;      LOCATION:  105 to 202
;      IDENTIFICATION METHOD:  similarity with known
;      IDENTIFICATION METHOD:  sequence
;    PUBLICATION INFORMATION:
;      AUTHORS:  FREEMAN, GORDON J.
;      AUTHORS:  FREEDMAN, ARNOLD S.
;      AUTHORS:  SEGIL, JEFFREY M.
;      AUTHORS:  LEE, GRACE
;      AUTHORS:  WHITMAN, JAMES F.
;      AUTHORS:  NADLER, LEE M.
;      TITLE:  B7, A New Member Of The Ig Superfamily With
;      TITLE:  Unique Expression On Activated And Neoplastic B Cells
;      JOURNAL:  The Journal of Immunology
;      VOLUME:  143
;      ISSUE:  8
;      PAGES:  2714-2722
;      DATE:  15-OCT-1989
;      RELEVANT RESIDUES IN SEQ ID NO:  2: From -26 to 262
US-09-159-135-2

  Query Match           100.0%;  Score 1149;  DB 3;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 9
US-08-205-697A-19
; Sequence 19, Application US/08205697A
; Patent No. 6218510
;  GENERAL INFORMATION:
```

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;    APPLICANT:  Sharpe, Arlene H.
;    APPLICANT:  Borriello, Francescopaulo
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    TITLE OF INVENTION:  No. 6218510el Forms of T Cell Costimulatory Molecules
;    TITLE OF INVENTION:  and Uses Therefor
;    NUMBER OF SEQUENCES:  61
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109-1875
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  ASCII Text
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/205,697A
;      FILING DATE:  02-Mar-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E.
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  BWI-120
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617)227-7400
;      TELEFAX:  (617)227-5941
;  INFORMATION FOR SEQ ID NO:  19:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-205-697A-19

  Query Match           100.0%;  Score 1149;  DB 3;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 10
US-08-702-525-19
; Sequence 19, Application US/08702525
; Patent No. 6294660
;  GENERAL INFORMATION:
;    APPLICANT:  Sharpe, Sharpe
;    APPLICANT:  Borriello, Francescopaolo
;    APPLICANT:  Freeman, Gordon
;    APPLICANT:  Nadler, Lee
;    TITLE OF INVENTION:  No. 6294660el Forms of T Cell Costimulatory
;    TITLE OF INVENTION:  Molecules and Uses Therefor
;    NUMBER OF SEQUENCES:  65
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  28 State Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109-1875
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  ASCII Text
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/702,525
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/205,697
;      FILING DATE:  02-Mar-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mandragouras, Amy E.
;      REGISTRATION NUMBER:  36,207
;      REFERENCE/DOCKET NUMBER:  BWI-120CPUS
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617)227-7400
;      TELEFAX:  (617)227-5941
;  INFORMATION FOR SEQ ID NO:  19:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  288 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-702-525-19

  Query Match           100.0%;  Score 1149;  DB 3;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 11
US-09-450-798-2
; Sequence 2, Application US/09450798
; Patent No. 6319709
;  GENERAL INFORMATION:
;    APPLICANT:  Ostrand-Rosenberg, Suzanne
;    APPLICANT:  Baskar, Sivasubramanian
;    APPLICANT:  Glimcher, Laurie H.
;    APPLICANT:  Freeman, Gordon J.
;    APPLICANT:  Nadler, Lee M.
;    TITLE OF INVENTION:  Tumor Cells With Increased Immunogenicity
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/09/450,798
;       FILING DATE:  29-NOV-1999
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/147,772
;       FILING DATE:  03-NOV-1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Mandragouras, Amy E.
;       REGISTRATION NUMBER:  36,207
;       REFERENCE/DOCKET NUMBER:  RPI-003
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 227-7400
;       TELEFAX:  (617) 227-5941
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  288 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
;       DESCRIPTION:  B cell activation antigen; natural ligand
;       DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;     FEATURE:
;       NAME/KEY:  signal sequence
;       LOCATION:  -34 to -1
;       IDENTIFICATION METHOD:  amino terminal sequencing of
;       IDENTIFICATION METHOD:  soluble protein
;       OTHER INFORMATION:  hydrophobic
;     FEATURE:
;       NAME/KEY:  extracellular domain
;       LOCATION:  1 to 208
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  transmembrane domain
;       LOCATION:  209 to 235
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  intracellular domain
;       LOCATION:  236 to 254
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;       IDENTIFICATION METHOD:  sequence
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;       LOCATION:  19 to 21
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;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  55 to 57
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;       LOCATION:  64 to 66
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;       NAME/KEY:  N-linked glycosylation
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;       NAME/KEY:  Ig V-set domain
;       LOCATION:  1 to 104
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;       NAME/KEY:  Ig C-set domain
;       LOCATION:  105 to 202
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     PUBLICATION INFORMATION:
;       AUTHORS:  FREEMAN, GORDON J.
;       AUTHORS:  FREEDMAN, ARNOLD S.
;       AUTHORS:  SEGIL, JEFFREY M.
;       AUTHORS:  LEE, GRACE
;       AUTHORS:  WHITMAN, JAMES F.
;       AUTHORS:  NADLER, LEE M.
;       TITLE:  B7, A New Member Of The Ig Superfamily With
;       TITLE:  Unique Expression On Activated And Neoplastic B Cells
;       JOURNAL:  The Journal of Immunology
;       VOLUME:  143
;       ISSUE:  8
;       PAGES:  2714-2722
;       DATE:  15-OCT-1989
;       RELEVANT RESIDUES IN SEQ ID NO:  2: From -26 to 262
US-09-450-798-2

  Query Match            100.0%;  Score 1149;  DB 4;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 12
US-08-403-253A-2
; Sequence 2, Application US/08403253A
; Patent No. 6352694
;  GENERAL INFORMATION:
;    APPLICANT:  June, Carl H., Thompson, Craig B., Nabel, Gary J.
;    APPLICANT:  Gray, Gary S., Rennert, Paul D.
;    TITLE OF INVENTION:  Methods For Selectively Stimulating Proliferation Of T-Cells
;    NUMBER OF SEQUENCES:  14
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  28 State Street
;      CITY:  Boston
;      STATE:  Massachusetts
```

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;       COUNTRY:  USA
;       ZIP:  02109
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/403,253A
;       FILING DATE:  March 10, 1995
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/253,964
;       FILING DATE:  3 JUNE 1994
;       APPLICATION NUMBER:  US 08/073,223
;       FILING DATE:  4 JUNE 1993
;       APPLICATION NUMBER:  US 08/200,947
;       FILING DATE:  23 FEB 1994
;       APPLICATION NUMBER:  US 07/864,805
;       FILING DATE:  7 APR 1992
;       APPLICATION NUMBER:  US 08/247,505
;       FILING DATE:  23 MAY 1994
;       APPLICATION NUMBER:  US 07/864,866
;       FILING DATE:  7 APR 1992
;       APPLICATION NUMBER:  US 08/218,155
;       FILING DATE:  25 MAR 1994
;       APPLICATION NUMBER:  US 07/864,807
;       FILING DATE:  7 APR 1992
;       APPLICATION NUMBER:  US 07/902,467
;       FILING DATE:  16 JUNE 1992
;       APPLICATION NUMBER:  US 07/275,433
;       FILING DATE:  23 NOV 1988
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Mandragouras, Amy E.
;       REGISTRATION NUMBER:  36,207
;       REFERENCE/DOCKET NUMBER:  RPI-002CP2
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 227-7400
;       TELEFAX:  (617) 742-4214
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  288 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
;       DESCRIPTION:  B cell activation antigen; natural ligand
;       DESCRIPTION:  for CD28 T cell surface antigen; transmembrane protein
;     FEATURE:
;       NAME/KEY:  signal sequence
;       LOCATION:  -34 to -1
;       IDENTIFICATION METHOD:  amino terminal sequencing of
;       IDENTIFICATION METHOD:  soluble protein
;       OTHER INFORMATION:  hydrophobic
;     FEATURE:
;       NAME/KEY:  extracellular domain
;       LOCATION:  1 to 208
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  transmembrane domain
;       LOCATION:  209 to 235
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  intracellular domain
;       LOCATION:  236 to 254
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  19 to 21
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  55 to 57
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;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  64 to 66
;       IDENTIFICATION METHOD:  similarity with known
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;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  152 to 154
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;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  173 to 175
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  177 to 179
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  192 to 194
;       IDENTIFICATION METHOD:  similarity with known
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;     FEATURE:
;       NAME/KEY:  N-linked glycosylation
;       LOCATION:  198 to 200
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  Ig V-set domain
;       LOCATION:  1 to 104
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     FEATURE:
;       NAME/KEY:  Ig C-set domain
;       LOCATION:  105 to 202
;       IDENTIFICATION METHOD:  similarity with known
;       IDENTIFICATION METHOD:  sequence
;     PUBLICATION INFORMATION:
;       AUTHORS:  FREEMAN, GORDON J.
;       AUTHORS:  FREEDMAN, ARNOLD S.
;       AUTHORS:  SEGIL, JEFFREY M.
;       AUTHORS:  LEE, GRACE
;       AUTHORS:  WHITMAN, JAMES F.
;       AUTHORS:  NADLER, LEE M.
;       TITLE:  B7, A New Member Of The Ig Superfamily With
;       TITLE:  Unique Expression On Activated And Neoplastic B Cells
;       JOURNAL:  The Journal of Immunology
;       VOLUME:  143
;       ISSUE:  8
;       PAGES:  2714-2722
;       DATE:  15-OCT-1989
;       RELEVANT RESIDUES IN SEQ ID NO:  2: From -26 to 262
US-08-403-253A-2

  Query Match             100.0%;  Score 1149;  DB 4;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146
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Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 13
US-09-651-200-13
; Sequence 13, Application US/09651200
; Patent No. 6429303
; GENERAL INFORMATION:
;  APPLICANT:  Green et al
;  TITLE OF INVENTION:  Polynucleotides Encoding Members of the Human B
;  TITLE OF INVENTION:  Lymphocyte Activation Antigen B-7 Family and
;  TITLE OF INVENTION:  Polypeptides Encoded Thereby
;  FILE REFERENCE:  15966-562 (CURA-62)
;  CURRENT APPLICATION NUMBER: US/09/651,200
;  CURRENT FILING DATE:  2000-08-30
;  PRIOR APPLICATION NUMBER:  60/152383
;  PRIOR FILING DATE:  1999-09-03
;  PRIOR APPLICATION NUMBER:  60/172909
;  PRIOR FILING DATE:  1999-12-21
;  PRIOR APPLICATION NUMBER:  60/183578
;  PRIOR FILING DATE:  2000-02-18
;  NUMBER OF SEQ ID NOS:  25
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 288
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-651-200-13

  Query Match           100.0%;  Score 1149;  DB 4;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 14
US-09-667-135-34
; Sequence 34, Application US/09667135
; Patent No. 6521749
; GENERAL INFORMATION:
;  APPLICANT: Vincent Ling
;  APPLICANT:  Kyriaki Dunussi-Joannopoulos
;  TITLE OF INVENTION: NOVEL GL50 MOLECULES AND USES THEREFOR
;  FILE REFERENCE: GNN-007
;  CURRENT APPLICATION NUMBER: US/09/667,135
;  CURRENT FILING DATE:  2000-09-21
;  NUMBER OF SEQ ID NOS: 38
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 34
;   LENGTH: 288
;   TYPE: PRT
;   ORGANISM: Mus musculus
;   FEATURE:
;   OTHER INFORMATION:
US-09-667-135-34

  Query Match           100.0%;  Score 1149;  DB 4;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 15
US-08-435-816A-2
; Sequence 2, Application US/08435816A
; Patent No. 6534055
;  GENERAL INFORMATION:
;    APPLICANT:  June, Carl H.
;    APPLICANT:  Thompson, Craig B.
;    APPLICANT:  Nabel, Gary J.
;    APPLICANT:  Gray, Gary S.
;    APPLICANT:  Rennert, Paul D.
;    TITLE OF INVENTION:  Methods For Selectively Stimulating Proliferation Of T-Cells
;    NUMBER OF SEQUENCES:  14
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/435,816A
;      FILING DATE:  May 4, 1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/403,253
;      FILING DATE:  10 MARCH 1995
;      APPLICATION NUMBER:  US 08/253,964
;      FILING DATE:  3 JUNE 1994
;      APPLICATION NUMBER:  US 08/073,223
;      FILING DATE:  4 JUNE 1993
;      APPLICATION NUMBER:  US 08/200,947
;      FILING DATE:  23 FEB 1994
;      APPLICATION NUMBER:  US 07/864,805
;      FILING DATE:  7 APR 1992
;      APPLICATION NUMBER:  US 08/247,505
;      FILING DATE:  23 MAY 1994
;      APPLICATION NUMBER:  US 07/864,866
;      FILING DATE:  7 APR 1992
;      APPLICATION NUMBER:  US 08/218,155
;      FILING DATE:  25 MAR 1994
;      APPLICATION NUMBER:  US 07/864,807
;      FILING DATE:  7 APR 1992
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; APPLICATION NUMBER: US 07/902,467
; FILING DATE: 16 JUNE 1992
; APPLICATION NUMBER: US 07/275,433
; FILING DATE: 23 NOV 1988
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
; REGISTRATION NUMBER: 36,207
; REFERENCE/DOCKET NUMBER: RPI-002CP3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 227-7400
; TELEFAX: (617) 227-5941
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 288 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; DESCRIPTION: B cell activation antigen; natural ligand
; DESCRIPTION: for CD28 T cell surface antigen; transmembrane protein
; FEATURE:
; NAME/KEY: signal sequence
; LOCATION: -34 to -1
; IDENTIFICATION METHOD: amino terminal sequencing of
; IDENTIFICATION METHOD: soluble protein
; OTHER INFORMATION: hydrophobic
; FEATURE:
; NAME/KEY: extracellular domain
; LOCATION: 1 to 208
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: transmembrane domain
; LOCATION: 209 to 235
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: intracellular domain
; LOCATION: 236 to 254
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 19 to 21
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 55 to 57
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 64 to 66
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 152 to 154
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; IDENTIFICATION METHOD: sequence
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; NAME/KEY: N-linked glycosylation
; LOCATION: 173 to 175
; IDENTIFICATION METHOD: similarity with known
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; NAME/KEY: N-linked glycosylation
; LOCATION: 177 to 179
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 192 to 194
; IDENTIFICATION METHOD: similarity with known
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; FEATURE:
; NAME/KEY: N-linked glycosylation
; LOCATION: 198 to 200
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: Ig V-set domain
; LOCATION: 1 to 104
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; FEATURE:
; NAME/KEY: Ig C-set domain
; LOCATION: 105 to 202
; IDENTIFICATION METHOD: similarity with known
; IDENTIFICATION METHOD: sequence
; PUBLICATION INFORMATION:
; AUTHORS: FREEMAN, GORDON J.
; AUTHORS: FREEDMAN, ARNOLD S.
; AUTHORS: SEGIL, JEFFREY M.
; AUTHORS: LEE, GRACE
; AUTHORS: WHITMAN, JAMES F.
; AUTHORS: NADLER, LEE M.
; TITLE: B7, A New Member Of The Ig Superfamily With
; TITLE: Unique Expression On Activated And Neoplastic B Cells
; JOURNAL: The Journal of Immunology
; VOLUME: 143
; ISSUE: 8
; PAGES: 2714-2722
; DATE: 15-OCT-1989
; RELEVANT RESIDUES IN SEQ ID NO: 2: From -26 to 262
US-08-435-816A-2

Query Match 100.0%; Score 1149; DB 4; Length 288;
Best Local Similarity 100.0%; Pred. No. 7e-113;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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RESULT 16
PCT-US95-02576-19
; Sequence 19, Application PC/TUS9502576
; GENERAL INFORMATION:
; APPLICANT:
; TITLE OF INVENTION: Novel Forms of T Cell Costimulatory Molecules
; TITLE OF INVENTION: and Uses Therefor
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHIVE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible

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;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  ASCII Text
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  PCT/US95/02576
;       FILING DATE:
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/205,697
;       FILING DATE:  02-Mar-1994
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Mandragouras, Amy E.
;       REGISTRATION NUMBER:  36,207
;       REFERENCE/DOCKET NUMBER:  BWI-120CPPC
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617)227-7400
;       TELEFAX:  (617)227-5941
;   INFORMATION FOR SEQ ID NO:  19:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  288 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
PCT-US95-02576-19

  Query Match           100.0%;  Score 1149;  DB 5;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 7e-113;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 17
US-09-171-945-131
; Sequence 131, Application US/09171945
; Patent No. 6277599
; GENERAL INFORMATION:
;  APPLICANT:  Emery, Stephen
;  APPLICANT:  Copley, Clive Graham
;  APPLICANT:  Edge, Michael Derek
;  TITLE OF INVENTION:  Monoclonal Antibody to CEA, Conjugates Comprising Said
;  TITLE OF INVENTION:  Antibody, and Their Therapeutic Use in an Adept System
;  FILE REFERENCE:  Monoclonal Antibody to CEA
;  CURRENT APPLICATION NUMBER: US/09/171,945
;  CURRENT FILING DATE:  1998-10-29
;  PRIOR APPLICATION NUMBER:  GB9703103.3
;  PRIOR FILING DATE:  1997-02-14
;  PRIOR APPLICATION NUMBER:  GB9609405.7
;  PRIOR FILING DATE:  1996-05-04
;  PRIOR APPLICATION NUMBER:  PCT/GB97/01165
;  PRIOR FILING DATE:  1997-04-29
;  NUMBER OF SEQ ID NOS:  131
;  SOFTWARE:  PatentIn Ver. 2.1
; SEQ ID NO 131
;   LENGTH: 473
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: humanized
US-09-171-945-131

  Query Match           100.0%;  Score 1149;  DB 3;  Length 473;
  Best Local Similarity  100.0%;  Pred. No. 1.5e-112;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


Search completed: November 26, 2003, 00:54:58
Job time : 22 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: November 26, 2003, 00:50:03 ; Search time 41 Seconds
(without alignments)
836.218 Million cell updates/sec

Title: US-09-666-267B-8
Perfect score: 1149
Sequence: 1 GLSHFCSGVIHVTKEVKEVA.....LRVNQTFNWNTTKQEHFPDN 216

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1149	100.0	288	16	AAR67989	Human B lymphocyte
2	1149	100.0	288	18	AAW38414	B7-1. Homo sapien
3	1149	100.0	288	20	AAW67804	Human B7 protein s
4	1149	100.0	288	20	AAW73640	Human B7-2 antigen
5	1149	100.0	288	21	AAB37087	Human B lymphocyte
6	1149	100.0	288	21	AAY99966	Human B7 protein.
7	1149	100.0	288	21	AAY44289	Human B7.1 co-stim
8	1149	100.0	288	21	AAY54920	Human B7.1 protein
9	1149	100.0	288	22	AAU05121	Colorectal tumour
10	1149	100.0	288	22	AAB19959	Human B lymphocyte
11	1149	100.0	288	23	ABP68580	Novel co-stimulato
12	1149	100.0	288	23	ABB78363	Amino acid sequenc
13	1149	100.0	288	23	AAO15800	Human B7-1 protein
14	1149	100.0	288	23	ABG32487	Human B cell activ
15	1149	100.0	288	23	AAE14633	Human B7-1 protein
16	1149	100.0	288	23	AAE15829	Human co-stimulato
17	1149	100.0	288	23	AAM50795	Human B-lymphocyte
18	1149	100.0	288	24	ABU07246	Human expressed pr
19	1149	100.0	288	24	ABU07247	Human expressed pr
20	1149	100.0	288	24	ABU07248	Human expressed pr
21	1149	100.0	288	24	ABU07249	Human expressed pr
22	1149	100.0	288	24	ABU07250	Human expressed pr
23	1149	100.0	288	24	ABU07251	Human expressed pr
24	1149	100.0	288	24	ABU07254	Human expressed pr
25	1149	100.0	288	24	ABU07255	Human expressed pr
26	1149	100.0	288	24	ABU07257	Human expressed pr
27	1149	100.0	288	24	ABU07260	Human expressed pr
28	1149	100.0	288	24	ABU07261	Human expressed pr
29	1149	100.0	288	24	ABU07265	Human expressed pr
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32	1149	100.0	288	24	ABU07268	Human expressed pr
33	1149	100.0	288	24	ABU07269	Human expressed pr
34	1149	100.0	473	18	AAW41415	Human B7.1-murine
35	1146	99.7	251	20	AAW90208	hB7.1glu-glu solub
36	1146	99.7	251	24	ABU07264	Human expressed pr
37	1144	99.6	475	18	AAW38415	Soluble B7-1-Ig.
38	1144	99.6	475	24	ABU07258	Human expressed pr
39	1143	99.5	488	20	AAW86004	Human B7-1.5T4.1 p
40	1143	99.5	488	22	AAB83836	Amino acid sequenc
41	1143	99.5	488	24	ABU07253	Human expressed pr
42	1143	99.5	488	24	ABU07262	Human expressed pr
43	1143	99.5	492	19	AAW42338	CD80-Ig-alpha-tp f
44	1143	99.5	492	24	ABU07259	Human expressed pr
45	1138	99.0	480	20	AAW90206	hB7.1Fc soluble fu

ALIGNMENTS

RESULT 1
AAR67989
ID AAR67989 standard; Protein; 288 AA.
XX
AC AAR67989;
XX
DT 25-MAR-2003 (updated)
DT 21-AUG-1995 (first entry)
XX
DE Human B lymphocyte antigen B7-1 (hB7-1).
XX
KW B lymphocyte antigen; B7-1; B cell activation antigen; CD28;
KW ligand; T cell surface antigen; transmembrane protein.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Protein 1..34
FT /label= signal sequence
FT /note= "hydrophobic"
FT Domain 35..242
FT /label= extracellular
FT Domain 243..269
FT /label= transmembrane
FT Domain 270..288
FT /label= intracellular
FT Misc-difference 53..55
FT /label= N-linked glycosylation
FT Misc-difference 89..91
FT /label= see above
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FT                   /label= see above
FT   Misc-difference 232..234
FT                   /label= see above
FT   Domain          35..138
FT                   /label= Ig V-set domain
FT   Domain          139..236
FT                   /label= Ig C-set domain
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PN   WO9503408-A1.
XX
PD   02-FEB-1995.
XX
PF   26-JUL-1994;    94WO-US08423.
XX
PR   26-JUL-1993;    93US-0101624.
PR   19-AUG-1993;    93US-0109393.
PR   03-NOV-1993;    93US-0147773.
XX
PA   (DAND ) DANA FARBER CANCER INST INC.
PA   (REPK ) REPLIGEN CORP.
XX
PI   Freeman GJ,  Gray GS,  Greenfield E,  Nadler LM;
XX
DR   WPI; 1995-075236/10.
DR   N-PSDB; AAQ81371.
XX
PT   Nucleic acids encoding CTLA4/CD28 counter receptor, B7-2 - useful
PT   for enhancing or suppressing T-cell mediated immune responses
XX
PS   Disclosure; pages 111-113; 175pp; English.
XX
CC   Q81371 is in pCDM8 vector. It is derived from lymphoid B cells,
CC   cell line Raji, clone no. 13. Its position in the genome is
CC   chromosome/segment 3. It was published by Freeman, F.J. et al.,
CC   J. of Immunology, 143: 8: 2714-2722, 15th October 1989. It can be
CC   found in Genbank at Accession no. M27533. The encoded protein,
CC   R67989, binds both human CTLA4 and human CD28. It is related
CC   to human hB7-2 (see Q81351) and murine hB7 (see Q81372).
CC   (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 16;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 2
AAW38414
ID   AAW38414 standard; Protein; 288 AA.
XX
AC   AAW38414;
XX
DT   08-APR-1998  (first entry)
XX
DE   B7-1.
XX
KW   Screening; inhibitor; enhancer; binding; CD28; B7-1.
XX
OS   Homo sapiens.
XX
PN   EP795554-A2.
XX
PD   17-SEP-1997.
XX
PF   04-MAR-1997;   97EP-0301438.
XX
PR   02-OCT-1996;   96JP-0262085.
PR   05-MAR-1996;   96JP-0047795.
XX
PA   (TAKE ) TAKEDA CHEM IND LTD.
XX
PI   Hattori M,  Hida T,  Kurokawa T,  Nakanishi A;
XX
DR   WPI; 1997-450803/42.
DR   N-PSDB; AAT96358.
XX
PT   New xanthene derivatives useful as immunomodulators - e.g. methyl
PT   2-(carboxymethylsulphinyl)-5,7-dichloro-3,8-dihydroxy-6-
PT   methyl-9-oxo-9H-xanthene-1-carboxylate.
XX
PS   Disclosure; Fig 4; 117pp; English.
XX
CC   The present sequence was used in the development of a novel method
CC   for screening for compounds that inhibit or enhance binding of CD28
CC   to B7-1.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 18;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 3
AAW67804
ID   AAW67804 standard; Protein; 288 AA.
XX
AC   AAW67804;
XX
DT   13-APR-1999  (first entry)
XX
DE   Human B7 protein sequence.
XX
KW   Human; B7; transfection; mammal; tumour cell; sarcoma; co-stimulation;
KW   T- cell; CD28; CTLA4; ligand; T-lymphocyte response; metastasis.
XX
```

```
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..34
FT                   /note= "signal peptide"
FT   Protein         35..288
FT                   /note= "mature B7 protein"
FT   Domain          35..242
FT                   /note= "extracellular domain"
FT   Domain          243..269
FT                   /note= "transmembrane domain"
FT   Domain          270..288
FT                   /note= "intracellular domain"
FT   Modified-site   53..55
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   89..91
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   98..100
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   186..188
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   207..209
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   211..213
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   226..228
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   236..234
FT                   /note= "Asn is N-glycosylated"
FT   Domain          35..139
FT                   /note= "Ig V-set domain"
FT   Domain          140..236
FT                   /note= "Ig C-set domain"
XX
PN   US5858776-A.
XX
PD   12-JAN-1999.
XX
PF   03-NOV-1993;   93US-0147772.
XX
PR   03-NOV-1993;   93US-0147772.
XX
PA   (DAND ) DANA FARBER CANCER INST INC.
PA   (HARD ) HARVARD COLLEGE.
PA   (REPK ) REPLIGEN CORP.
XX
PI   Baskar S,  Freeman GJ,  Glimcher LH,  Nadler LM,  Ostrand-Rosenberg S;
XX
DR   WPI; 1999-119893/10.
DR   N-PSDB; AAX00757.
XX
PT   New modified tumour cells - transfected in order to express a T cell
PT   costimulatory molecule which allows the induction of an anti-tumour
PT   response by T cells
XX
PS   Disclosure; Column 31-34; 24pp; English.
XX
CC   This sequence represents the amino acid sequence of a human B7 protein.
CC   The coding sequence can be used to transfect mammalian tumour (sarcoma)
CC   cell so that the B7 protein is expressed by the tumour cell and has the
CC   ability to co-stimulate T cells and bind CD28 or CTLA4 ligand.
CC   The modified tumour cells can be used for inducing an anti-tumour
CC   T-lymphocyte response in a subject and are effective against both
CC   modified and unmodified tumour cells.  The modified tumour cells can
CC   also be administered to prevent or inhibit metastatic spread of a tumour
CC   or to prevent or inhibit recurrence of a tumour following therapeutic
CC   treatment.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 20;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 4
AAW73640
ID   AAW73640 standard; Protein; 288 AA.
XX
AC   AAW73640;
XX
DT   23-MAR-1999  (first entry)
XX
DE   Human B7-2 antigen.
XX
KW   B7-2 antigen; mammalian tumour cell; T cell costimulation; CD28 ligand;
KW   CTLA4 ligand; therapy; T-cell response; human.
XX
OS   Homo sapiens.
XX
PN   US5861310-A.
XX
PD   19-JAN-1999.
XX
PF   30-MAY-1995;   95US-0456104.
XX
PR   30-MAY-1995;   95US-0456104.
PR   03-NOV-1993;   93US-0147773.
XX
PA   (DAND ) DANA FARBER CANCER INST INC.
XX
PI   Freeman GJ,  Gray GS,  Nadler LM;
XX
DR   WPI; 1999-130394/11.
DR   N-PSDB; AAV55786.
XX
PT   Tumour cell transfected to express B7-2 molecule - useful for tumour
PT   therapy by stimulating T-cell response
XX
PS   Disclosure; Column 37-40; 27pp; English.
XX
CC   This sequence is the human B7-2 antigen, which can be used in the
CC   method of the invention. The method is for transfecting an isolated
CC   mammalian tumour cell with an exogenous nucleic acid molecule encoding a
CC   mammalian B7-2 molecule, where the B7-2 molecule is expressed in the
CC   tumour cell is capable of costimulating a T cell and is capable of
CC   binding a CD28 or CTLA4 ligand. The method is useful for treating tumours
CC   by stimulating a T-cell response against tumour cells in vivo.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 20;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 5
AAB37087
ID   AAB37087 standard; Protein; 288 AA.
XX
AC   AAB37087;
XX
DT   28-MAR-2001  (first entry)
XX
DE   Human B lymphocyte antigen B7-1.
XX
KW   Immunomodulator; fusion protein; human; murine; mouse; lymphocyte; CD28;
KW   antigen; extracellular domain; CTLA4; immunoglobulin constant region;
KW   immunogenicity; tumour; sarcoma; antigen presenting cell; macrophage;
KW   T cell-mediated immune response; transplantation; vaccination.
XX
OS   Homo sapiens.
XX
PN   US6130316-A.
XX
PD   10-OCT-2000.
XX
PF   26-JUL-1994;   94US-0280757.
XX
PR   26-JUL-1993;   93US-0101624.
PR   19-AUG-1993;   93US-0109393.
PR   03-NOV-1993;   93US-0147773.
XX
PA   (DAND ) DANA FARBER CANCER INST INC.
PA   (REPK ) REPLIGEN CORP.
XX
PI   Freeman GJ,  Nadler LM,  Gray GS,  Greenfield E;
XX
DR   WPI; 2000-655681/63.
DR   N-PSDB; AAC84051.
XX
PT   Nucleic acids and fusion proteins of CTLA4/CD28 ligands, useful for
PT   enhancing or suppressing T cell-mediated immune responses, especially
PT   during tissue, skin or organ transplantation, or in graft-versus-host
PT   disease  -
XX
PS   Disclosure; Column 87-90; 83pp; English.
XX
CC   The invention relates to an isolated nucleic acid molecule encoding a
CC   fusion protein comprising a first nucleotide sequence encoding a first
CC   peptide, and a second nucleotide sequence encoding a second peptide.
CC   The first nucleotide sequence hybridizes in 6 X sodium chloride/sodium
CC   citrate (SSC) at 45 deg. C, followed by a wash in 0.2 X SSC at 50 deg. C
CC   to a portion of a nucleotide sequence which encodes a human or murine
CC   B lymphocyte antigen (B7-2) extracellular domain. The first peptide has
CC   the ability to bind CD28 or CTLA4. The first peptide has an amino acid
CC   sequence that is identical or at least 50% identical with the
CC   extracellular domain of a human B7-2 peptide (AAB37085). The second
CC   peptide is especially an immunoglobulin constant region. This sequence
CC   represents the human B lymphocyte antigen B7-1. The sequence is used for
CC   comparison with the B7-2 sequence. The human B7-2 protein is an example
CC   of a first peptide sequence of the invention. The nucleic acid molecules
CC   are useful in various expression vectors to direct synthesis of the
CC   corresponding proteins or peptides in a variety of hosts, particularly
CC   eukaryotic cells, e.g. mammalian or insect cell culture. The nucleic
CC   acids are also useful for enhancing the immunogenicity of a mammalian
CC   cell, e.g. tumour cell (sarcoma) or an antigen presenting cell
CC   (macrophage). The fusion proteins or peptides are useful for enhancing or
CC   suppressing T cell-mediated immune responses, e.g. in situations of
CC   tissue, skin or organ transplantation, or in graft-versus-host disease.
CC   The proteins are also useful for enhancing the efficacy of vaccination
CC   against a variety of pathogens, and may also be used to upregulate an
CC   immune response against a particular pathogen during an infection or
CC   against a tumour in a tumour-bearing host.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 21;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 6
AAY99966
ID   AAY99966 standard; Protein; 288 AA.
XX
AC   AAY99966;
XX
DT   10-JAN-2001  (first entry)
XX
DE   Human B7 protein.
XX
KW   B7; human; B cell activation antigen; B lymphocytes;
KW   autoimmune disease; rheumatoid arthritis; multiple sclerosis;
KW   herpes simplex; influenza; common cold; HIV.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..34
FT                   /label= signal_peptide
FT   Domain          35..242
FT                   /label= Extracellular_domain
FT   Domain          35..138
FT                   /label= "Ig V-set domain"
FT   Modified-site   53..55
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   89..91
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   98..100
FT                   /note= "N-linked glycosylation site"
FT   Domain          139..236
FT                   /label= "Ig C-set domain"
FT   Modified-site   186..188
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   207..209
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   211..213
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   226..228
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   232..234
FT                   /note= "N-linked glycosylation site"
FT   Domain          243..269
```

```
FT                   /label= Transmembrane_domain
FT   Domain          270..288
FT                   /label= Intracellular_domain
XX
PN   US6071716-A.
XX
PD   06-JUN-2000.
XX
PF   15-NOV-1993;   93US-0153262.
XX
PR   28-AUG-1991;   91US-0751306.
PR   01-OCT-1990;   90US-0591300.
XX
PA   (DAND ) DANA FARBER CANCER INST INC.
XX
PI   Nadler LM,  Freeman GJ,  Freedman AS;
XX
DR   WPI; 2000-422081/36.
DR   N-PSDB; AAA61328.
XX
PT   New polynucleotides encoding a B7 activation antigen, useful for
PT   regulating T cell mediated immune responses or viral diseases -
XX
PS   Claim 1; Fig 4; 36pp; English.
XX
CC   The present sequence is the unique human B cell activation antigen B7
CC   protein. The cDNA encoding this sequence was isolated from a Burkitt
CC   lymphoma cell line cDNA library. Selection of cDNA clones was based
CC   on expression of B7, as detected by the anti-B7 monoclonal antibody.
CC   The human B7 cDNA was used in hybridisation analysis to isolate the
CC   murine B7 cDNA (see AAA61329). The B7 nucleic acid sequences may be
CC   used to generate transgenic, knock-out animals which, in turn, are
CC   useful in the development and screening of therapeutically useful
CC   reagents. The expressed B7 protein is useful for enhancing or
CC   blocking activated T cell mediated immune responses and immune
CC   function. Modification of B7 expression is useful in the treatment of
CC   autoimmune diseases (e.g. rheumatoid arthritis or multiple sclerosis),
CC   herpes simplex, influenza, the common cold and HIV. It is also useful
CC   in tissue and organ transplantation.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 21;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 7
AAY44289
ID   AAY44289 standard; Protein; 288 AA.
XX
AC   AAY44289;
XX
DT   29-FEB-2000  (first entry)
XX
DE   Human B7.1 co-stimulatory molecule.
XX
KW   Human B7.1 co-stimulatory molecule; antigen presenting cell;
KW   immune response; cell surface receptor; Major histocompatibility complex;
KW   MHC classII; proton motor force; mitochondrial membrane potential;
KW   mitochondrial metabolism; cancer; autoimmune disease; glycoprotein;
KW   neurodegenerative disorder.
XX
OS   Homo sapiens.
XX
PN   WO9953953-A2.
XX
PD   28-OCT-1999.
XX
PF   30-MAR-1999;   99WO-US06874.
XX
PR   17-APR-1998;   98US-0082250.
PR   29-JUL-1998;   98US-0094519.
PR   24-SEP-1998;   98US-0101580.
XX
PA   (UYVE-) UNIV VERMONT.
XX
PI   Newell MK;
XX
DR   WPI; 2000-096773/08.
DR   N-PSDB; AAZ29320.
XX
PT   Use of cell surface and membrane characteristics for developing
PT   products for treating cancers, autoimmune diseases or neurodegenerative
PT   diseases  -
XX
PS   Disclosure; Page 115; 123pp; English.
XX
CC   The present sequence is human B7.1 co-stimulatory molecule. This is
CC   a glycoprotein on the surface of antigen presenting cells. This is
CC   involved in stimulation of an immune response by its ability to interact
CC   with various immune cell surface receptors. The regulation of cell
CC   surface expression of MHC classII and co-stimulatory molecule B7 can be
CC   manipulated by regulating the intracellular dissipation of proton motor
CC   force which can be assessed in terms of mitochondrial membrane potential.
CC   These methods can be used for regulating cell growth and division to
CC   control disease processes by manipulating mitochondrial metabolism and
CC   the expression of cell surface immune proteins. They can be used for
CC   treating diseases associated with excessive cellular division, aberrant
CC   differentiation, and premature cellular death, e.g. cancers, autoimmune
CC   diseases, neurodegenerative disorders etc.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 21;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 8
AAY54920
ID   AAY54920 standard; Protein; 288 AA.
XX
AC   AAY54920;
```

```
XX
DT   14-FEB-2000  (first entry)
XX
DE   Human B7.1 protein sequence.
XX
KW   Interleukin-12; IL-12; fusion protein; IL-12 p35 subunit; B7 protein;
KW   IL-12 p40 subunit; gene therapy; tumour; leukaemia; B7.1 protein.
XX
OS   Homo sapiens.
XX
PN   US5994104-A.
XX
PD   30-NOV-1999.
XX
PF   08-NOV-1996;   96US-0751767.
XX
PR   08-NOV-1996;   96US-0751767.
XX
PA   (UNLO ) ROYAL FREE HOSPITAL SCHOOL MED.
XX
PI   Anderson RJ,  Prentice HG,  MacDonald ID;
XX
DR   WPI; 2000-038261/03.
DR   N-PSDB; AAZ40022.
XX
PT   Nucleic acid constructs encoding interleukin-12 fusion proteins useful
PT   for treating leukemia and other cancers -
XX
PS   Example; Fig 10; 73pp; English.
XX
CC   This sequence represents the human B7.1 protein sequence.
CC   The invention relates to an isolated nucleic acid construct (I)
CC   comprising a region encoding an interleukin-12 (IL-12) fusion protein
CC   (comprising an IL-12 p35 subunit, an IL-12 p40 subunit and a linker
CC   peptide (joining the subunits)) and a region encoding a B7 protein. (I)
CC   may be used to produce IL-12 fusion proteins according to standard
CC   recombinant DNA methodologies. The fusion proteins may be produced either
CC   in vitro in a fermentation culture or in vivo as part of a gene therapy
CC   protocol (in this case (I) is used to transform a patients cells, which
CC   then secrete the functional polypeptide to supplement the patients own
CC   production of IL-12 or to rectify mutations which lead to the expression
CC   of inactive polypeptides). The fusion proteins produced in this way may
CC   be used to treat any disease which responds to IL-12 such as tumours
CC   (both solid and dispersed of the kidney, breast, colon, ovarian and
CC   cervical tumours and melanomas) and in particular, tumours of the blood
CC   such as leukaemia. Alternatively, the polypeptides may be used as
CC   antigens in the production of antibodies to IL-12 and to assay for
CC   agonists and antagonists of its activity. The antibodies and antagonists
CC   may be used to inhibit the activity of IL-12. (I) may also be used
CC   diagnostically as a probe which hybridizes to sequences encoding IL-12
CC   and the antibodies may be used to detect the presence of IL-12
CC   polypeptides in samples. They may be used diagnostically to quantitate
CC   the expression of the polypeptide by patients and hence which subjects
CC   may be in need of restorative therapy.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 21;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 9
AAU05121
ID   AAU05121 standard; Protein; 288 AA.
XX
AC   AAU05121;
XX
DT   24-OCT-2001  (first entry)
XX
DE   Colorectal tumour antigen CD80.
XX
KW   Colorectal cancer; immunostimulant; cytostatic; immune response;
KW   adenocarcinoma; allogeneic tumour cell; SW620 cell; COLO 205 cell;
KW   SW403 cell; colon; breast; lung; prostate; cancer; vaccine;
KW   tumour antigen CD80.
XX
OS   Homo sapiens.
XX
PN   WO200154716-A2.
XX
PD   02-AUG-2001.
XX
PF   26-JAN-2001; 2001WO-US02731.
XX
PR   27-JAN-2000; 2000US-0178498.
PR   28-FEB-2000; 2000US-0185335.
XX
PA   (KIMM-) KIMMEL CANCER CENT SIDNEY.
PA   (IMMU-) IMMUNE RESPONSE CORP.
XX
PI   Sobol RE,  Shawler DL,  Bartholomew RM,  Carlo DJ,  Gold DP;
XX
DR   WPI; 2001-502616/55.
DR   N-PSDB; AAS11426.
XX
PT   New composition comprising an allogeneic tumour cell, useful for
PT   stimulating an immune response in a patient having an adenocarcinoma,
PT   especially useful for treating colorectal, breast, lung or prostate
PT   cancer -
XX
PS   Example 2; Page 130-131; 131pp; English.
XX
CC   The invention relates to a composition for stimulating an immune response
CC   in a patient having an adenocarcinoma or colorectal cancer. The
CC   composition comprises an allogeneic tumour cell selected from SW620 cell,
CC   COLO 205 cell and SW403 cell, and a physiological carrier. The allogeneic
CC   cell stimulates an immune response to an autologous tumour cell in the
CC   patient. The composition is useful for stimulating an immune response in
CC   a patient having an adenocarcinoma, e.g. colon, breast, lung or prostate
CC   adenocarcinoma. The use of allogeneic tumour cells provides a generic
CC   source of antigen that can be administered to a variety of patients, in
CC   contrast to using autologous tumour cells, which must be isolated from
CC   each individual patient. The allogeneic cells are suitable as a cancer
CC   vaccine and can stimulate an immune response against autologous tumour
CC   cells of a cancer patient. The present sequence represents the amino acid
CC   sequence of colorectal tumour antigen CD80 used in the method of the
CC   invention.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 22;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
```

```
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 10
AAB19959
ID   AAB19959 standard; Protein; 288 AA.
XX
AC   AAB19959;
XX
DT   19-MAR-2001  (first entry)
XX
DE   Human B lymphocyte antigen B7.
XX
KW   Human; B7; B lymphocyte; antigen; T cell costimulatory molecule;
KW   CD28; CTLA4; tumour; melanoma; neuroblastoma; leukaemia; carcinoma;
KW   metastasis; antitumour; therapy.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..34
FT                   /label= Signal_peptide
FT   Protein         35..288
FT                   /label= Mature_protein
FT   Domain          35..242
FT                   /note= "extracellular domain"
FT   Domain          243..269
FT                   /note= "transmembrane domain"
FT   Domain          270..288
FT                   /note= "intracellular domain"
FT   Domain          35..138
FT                   /note= "immunoglobulin V-set domain"
FT   Domain          139..236
FT                   /note= "immunoglobulin C-set domain"
FT   Modified-site   53..55
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   89..91
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   98..100
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   186..188
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   207..209
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   211..213
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   226..228
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   232..234
FT                   /note= "Asn is N-glycosylated"
XX
PN   US6149905-A.
XX
PD   21-NOV-2000.
XX
PF   23-SEP-1998;   98US-0159135.
XX
PR   03-NOV-1993;   93US-0147772.
XX
PA   (GEMY ) GENETICS INST INC.
PA   (DAND ) DANA FARBER CANCER INST INC.
PA   (HARD ) HARVARD COLLEGE.
XX
PI   Baskar S,  Glimcher LH,  Freeman GJ,  Ostrand-Rosenberg S;
PI   Nadler LM;
XX
DR   WPI; 2001-079388/09.
DR   N-PSDB; AAA89224.
XX
PT   Modifying tumor cell for treating tumors, reducing metastatic spread,
PT   inhibiting recurrence of tumor and increasing immunogenicity, involves
PT   transfecting tumor cells with a nucleic acid encoding B7 molecule  -
XX
PS   Claim 4; Column 31-34; 24pp; English.
XX
CC   The present sequence is that of human lymphocyte antigen B7, a T
CC   cell costimulatory molecule that binds to CD28 and CTLA4.  Tumour
CC   cells modified to express a T cell costimulatory molecule,
CC   especially B7, are disclosed.  The tumour cells are modified by
CC   transfection with a nucleic acid encoding the T cell costimulatory
CC   molecule, by using an agent which induces or increases expression
CC   of the T cell costimulatory molecule on the tumour cell surface, or
CC   by coupling the T cell costimulatory molecule to the tumour cell
CC   surface.  Tumour cells further modified to express major
CC   histocompatibility complex (MHC) class I and/or class II molecules,
CC   or in which expression of an MHC associated protein, the invariant
CC   chain, is inhibited are also disclosed.  The modified tumour cells
CC   are used to treat a patient with a tumour, preventing or inhibiting
CC   metastatic spread or tumour recurrence.  The tumour may be a
CC   melanoma, a neuroblastoma, a leukaemia or a carcinoma.  A method for
CC   specifically inducing a CD4+ T cell response against a tumour, and a
CC   method for treating a tumour by modification of tumour cells in vivo
CC   are also disclosed.  The treatment methods increase the immunogenicity
CC   of the tumour cell in vivo.  The antitumour T cell-mediated immune
CC   response is effective both against the modified tumour cells and the
CC   unmodified tumour cells from which the modified cells were derived.
CC   Thus, the effector phase of the antitumour response induced by the
CC   modified tumour cells is not dependent upon expression of a
CC   costimulatory molecule on the tumour cells.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 22;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 11
ABP68580
ID   ABP68580 standard; Protein; 288 AA.
XX
AC   ABP68580;
XX
DT   08-JAN-2003  (first entry)
XX
DE   Novel co-stimulatory molecule (NCSM) Protein SEQ ID NO:278.
XX
KW   Novel co-stimulatory molecule; NCSM; CD28; binding; CTLA-4 receptor;
KW   CD28 receptor; CTLA-4; gene therapy; vaccine; immunosuppressive; HIV;
KW   neuroprotective; antirheumatic; antiarthritic; dermatological; anti-HIV;
KW   antiinflammatory; antipsoriatic; antidiabetic; cytostatic; virucide;
```

KW antibacterial; immunostimulant; T cell response; immune response; tumour;
KW autoimmune disorder; multiple sclerosis; rheumatoid arthritis; psoriasis;
KW lupus erythematosus; type I diabetes; cancer; viral infection;
KW bacterial infection.
XX
OS Homo sapiens.
XX
PN WO200200717-A2.
XX
PD 03-JAN-2002.
XX
PF 22-JUN-2001; 2001WO-US19973.
XX
PR 23-JUN-2000; 2000US-213946P.
PR 17-OCT-2000; 2000US-241245P.
XX
PA (MAXY-) MAXYGEN INC.
XX
PI Punnonen J, Lazetic ALL, Leong SR, Chang CJ, Apt D, Gustafsson C;
XX
DR WPI; 2002-583287/62.
XX
PT Novel co-stimulatory molecule nucleic acids and polypeptides, useful
PT for treating e.g. autoimmune disorder, cancer, viral or bacterial
PT infection, comprises greater CD28/CTLA-4 binding affinity ratio than
PT binding affinity ratio of human B7-1 -
XX
PS Claim 80; Page 280; 364pp; English.
XX
CC The present invention describes an isolated or recombinant novel
CC co-stimulatory molecule (NCSM) nucleic acid (I). (I) and NCSM proteins
CC (II) can have immunosuppressive, neuroprotective, antirheumatic,
CC antiarthritic, dermatological, antiinflammatory, antipsoriatic, virucide,
CC antidiabetic, cytostatic, anti-HIV, antibacterial and immunostimulant
CC activities. They can be used in gene therapy, antisense therapy and
CC vaccine production, and as CD28 and CTLA-4 modulators. (II) is useful for
CC inducing, inhibiting and modifying T-cell proliferation and modifying
CC T-cell activation in culture. (I) is useful for modulating or altering a
CC T-cell response specific to an antigen (e.g. antigen of an infectious
CC agent or cancer) in a subject, where (I) interacts with or binds to a T
CC cell surface receptor to enhance T-cell response so that cells bearing
CC the antigen are eliminated or to suppress or inhibit T-cell response.
CC Alternatively (I) is introduced into cells of a tumour. (I) and (II) are
CC useful for the therapeutic or prophylactic treatment of a disease or
CC disorder in a human, where an immune response induced by the immunogen is
CC enhanced, diminished or modified by the in vivo, in vitro or ex vivo
CC administration of (I) or (II) to the cells of the subject. In particular
CC disease that may be treated using (I) and (II) are autoimmune disorders,
CC multiple sclerosis, rheumatoid arthritis, lupus erythematosus, psoriasis,
CC type I diabetes, allogeneic/xenogeneic grafts or transplants, cancer,
CC viral infections (e.g. HIV) or bacterial infection. ABP68436 to ABP68443
CC and ABV94478 to ABV94485 represent sequences used in the exemplification
CC of the present invention. ABV94486 to ABV94627 and ABP68444 to ABP68595
CC represent NCSM sequences from the present invention.
XX
SQ Sequence 288 AA;

Query Match 100.0%; Score 1149; DB 23; Length 288;
Best Local Similarity 100.0%; Pred. No. 3.4e-103;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
```

RESULT 12
ABB78363
ID ABB78363 standard; Protein; 288 AA.
XX
AC ABB78363;
XX
DT 16-DEC-2002 (first entry)
XX
DE Amino acid sequence of human B7-1 (CD80).
XX
KW B7 protein; B7-1; CD80; CD28 ligand; T cell; T cell proliferation;
KW infectious disease; cancer; immunotherapy; immunotherapy.
XX
OS Homo sapiens.
XX
PN US2002115214-A1.
XX
PD 22-AUG-2002.
XX
PF 26-JAN-1996; 96US-0592711.
XX
PR 23-NOV-1988; 88US-0275433.
PR 07-APR-1992; 92US-0864805.
PR 07-APR-1992; 92US-0864807.
PR 07-APR-1992; 92US-0864866.
PR 04-JUN-1993; 93US-0073223.
PR 03-JUN-1994; 94US-0253964.
PR 10-MAR-1995; 95US-0403253.
PR 04-MAY-1995; 95US-0435816.
XX
PA (JUNE/) JUNE C H.
PA (THOM/) THOMPSON C B.
PA (NABE/) NABEL G J.
PA (GRAY/) GRAY G S.
PA (RENN/) RENNERT P D.
XX
PI June CH, Thompson CB, Nabel GJ, Gray GS, Rennert PD;
XX
DR WPI; 2002-712476/77.
DR N-PSDB; ABV72339.
XX
PT Inducing a population of T cells to proliferate, by activating
PT population of T cells and stimulating an accessory molecule on the
PT surface of the T cells with a ligand which binds the accessory molecule
PT -
XX
PS Disclosure; Page 40-41; 88pp; English.
XX
CC The present sequence is a member of the B7 family of protein, B7-1
CC (CD80). B7 proteins are ligands for CD28. Activated T cells are contacted
CC with a stimulatory form of a natural ligand for CD28, such as a B7
CC protein, for costimulation. B7 molecules are used in the method of the
CC invention. The specification describes method for inducing a population
CC of T cells to proliferate. The method involves activating population of
CC T cells, stimulating an accessory molecule (e.g. CD28) on T cell surface
CC with a ligand (e.g. B7 protein) which binds the molecule, to induce
CC proliferation of T cells, monitoring proliferation of T cells in response
CC to continuing exposure to the ligand, and reactivating and restimulating
CC T cells when rate of proliferation has decreased to induce further
CC proliferation of the cells. The method is useful for inducing
CC proliferation of T cells, for use in treatment of infectious disease,
CC cancer and immunotherapy. The method allows for the expansion of a
CC population of T cells in numbers sufficient to reconstitute an
CC individuals's total CD4+ or CD8+ T cell population. The resulting T cell
CC population can be genetically transduced and used for immunotherapy or
CC can be used in methods of in vitro analyses of infectious agents. A
CC population of tumour-infiltrating lymphocytes can be obtained from an
CC individual afflicted with cancer and the T cells stimulated to

```
CC   proliferate to sufficient numbers. The resulting T cell population
CC   can be genetically transduced to express tumour necrosis factor
CC   (TNF) or other factor and restored to the individual. CD4+ T cells
CC   expanded by this method are useful in the treatment of HIV infection in
CC   an individual.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 23;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 13
AAO15800
ID   AAO15800 standard; Protein; 288 AA.
XX
AC   AAO15800;
XX
DT   05-DEC-2002  (first entry)
XX
DE   Human B7-1 protein.
XX
KW   Human; gene therapy; B7-like protein; graft vs host disease;
KW   immune response modulation; T-lymphocyte-related disorder; asthma;
KW   allergy; allergic rhinitis; psoriasis; chronic inflammatory disease;
KW   autoimmune disease; graft rejection; neoplasia; viral infection; HIV;
KW   herpes; bone disorder; B7 lymphoma; carcinoma; T-cell leukaemia.
XX
OS   Homo sapiens.
XX
PN   US2002106730-A1.
XX
PD   08-AUG-2002.
XX
PF   20-JUL-2001; 2001US-0910174.
XX
PR   20-JUL-2000; 2000US-0620461.
XX
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Coyle AJ,  Fraser CC,  Manning S;
XX
DR   WPI; 2002-712398/77.
XX
PT   Novel human B-7-like polypeptide referred to as B7-H2, useful for
PT   identifying a compound which modulates activity of the polypeptide, and
PT   treating T-lymphocyte-related, immune and bone disorders -
XX
PS   Disclosure; Fig 1; 101pp; English.
XX
CC   The invention comprises the amino acid and coding sequences of B7-like
CC   proteins. The B7-like proteins/nucleic acids of the invention are useful
CC   for modulating immune responses and for diagnosing and treating disorders
CC   that involve B7-like protein activity or nucleic acid expression. Such
CC   disorders include T-lymphocyte-related disorders: asthma; allergies
CC   (e.g. allergic rhinitis); psoriasis; chronic inflammatory diseases;
CC   autoimmune diseases; graft rejection; graft vs  host disease; neoplasia;
CC   viral infections (e.g HIV and herpes); bone disorders; B7 lymphomas;
CC   carcinomas; and T-cell leukaemias. The present amino acid sequence
CC   represents a human B7-like protein.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 23;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 14
ABG32487
ID   ABG32487 standard; Protein; 288 AA.
XX
AC   ABG32487;
XX
DT   15-NOV-2002  (first entry)
XX
DE   Human B cell activation antigen B7.
XX
KW   Human; B cell activation antigen; B7; tumour; cytostatic;
KW   chromosome 3; T cell costimulatory molecule; T lymphocyte; cancer;
KW   sarcoma; lymphoma; leukaemia; carcinoma; neuroblastoma; melanoma;
KW   metastasis; CD4^+ T helper lymphocyte.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..34
FT                   /label= Signal_peptide
FT   Protein         35..288
FT                   /label= Mature_B7
XX
PN   US2002086421-A1.
XX
PD   04-JUL-2002.
XX
PF   27-SEP-2001; 2001US-0966148.
XX
PR   03-NOV-1993;   93US-0147772.
PR   23-SEP-1998;   98US-0159135.
PR   29-NOV-1999;   99US-0450798.
XX
PA   (UYMA-) UNIV MARYLAND BALTIMORE.
XX
PI   Ostrand-Rosenberg S,  Baskar S,  Glimcher LH,  Freeman GJ,  Nadler LM;
XX
DR   WPI; 2002-642246/69.
DR   N-PSDB; ABS52443.
XX
PT   Novel tumour cells with increased immunogenicity for treating tumour in a
PT   patient, preventing or inhibiting metastatic spread of a tumour and
PT   recurrence of a tumour, are modified to express a T cell costimulatory
PT   molecule -
XX
```

```
PS   Disclosure; Page 17-18; 25pp; English.
XX
CC   The invention relates to a tumour cell which is modified to express a T
CC   cell costimulatory molecule. Also included is a method of treating a
CC   subject with a tumour, by obtaining tumour cells and T lymphocytes from
CC   the subject, culturing the T lymphocytes from the subject in vitro with
CC   the tumour cells from the subject and with a stimulatory form of a T cell
CC   costimulatory molecule and administering the T lymphocytes to the
CC   subject. The tumour cell is useful for treating cancer including sarcoma,
CC   lymphoma, leukaemia, carcinoma, neuroblastoma, melanoma, by obtaining
CC   tumour cells from the subject, modifying the tumour cells to express a T
CC   cell costimulatory molecule and administering the tumour cells to the
CC   subject. The cell is also useful for preventing or treating metastatic
CC   spread of a tumour or preventing or treating recurrence of a tumour in a
CC   subject, and for inducing an anti-tumour response by CD4^+ T helper
CC   lymphocytes in a subject with a tumour. As the effector phase of the T
CC   cell-mediated immune response is not dependent upon expression of a
CC   costimulatory molecule by tumour cells, the T cell-mediated immune
CC   response generated by administration of a modified tumour cell is
CC   effective against not only the modified tumour cells but also the
CC   unmodified tumour cells from which they were derived. The present
CC   sequence represents a T cell costimulatory molecule, B cell activation
CC   antigen B7, the human gene for which is located on chromosome 3.
XX
SQ   Sequence   288 AA;

  Query Match           100.0%;  Score 1149;  DB 23;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 15
AAE14633
ID   AAE14633 standard; Protein; 288 AA.
XX
AC   AAE14633;
XX
DT   16-JUL-2002  (first entry)
XX
DE   Human B7-1 protein.
XX
KW   T cell; CD3; accessory molecule; CD28; cancer; infectious disease;
KW   immunotherapy; human immunodeficiency virus; HIV infection;
KW   cytokine; human; B7-1; CD80.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..34
FT                   /label= Signal_peptide
FT   Protein         35..288
FT                   /note= "Mature B7-1 protein"
FT   Domain          35..242
FT                   /label= Extracellular_domain
FT   Domain          35..138
FT                   /note= "Ig V-set domain"
FT   Modified-site   53..55
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   89..91
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   98..100
FT                   /note= "Asn is N-glycosylated"
FT   Domain          139..236
FT                   /note= "Ig C-set domain"
FT   Modified-site   186..188
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   207..209
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   211..213
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   226..228
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   232..234
FT                   /note= "Asn is N-glycosylated"
FT   Domain          243..269
FT                   /label= Transmembrane_domain
FT   Domain          270..288
FT                   /label= Intracellular_domain
XX
PN   US6352694-B1.
XX
PD   05-MAR-2002.
XX
PF   10-MAR-1995;   95US-0403253.
XX
PR   03-JUN-1994;   94US-0253964.
XX
PA   (GEMY ) GENETICS INST INC.
PA   (UNMI ) UNIV MICHIGAN.
XX
PI   June CH,  Thompson CB,  Nabel GJ,  Gray GS,  Rennert PD;
XX
DR   WPI; 2002-314696/35.
DR   N-PSDB; AAD27967.
XX
PT   Inducing T cell population to proliferate, useful in cancer therapy,
PT   comprises activating T cells by contacting T cells in vitro with
PT   immobilized anti-CD3 antibody and stimulating accessory molecule on T
PT   cell surface  -
XX
PS   Example 11; Column 59-62; 71pp; English.
XX
CC   The invention relates to a method of inducing T cell population to
CC   proliferate for use in therapy comprising activating T cells by
CC   contacting T cells in vitro with anti-CD3 antibody which is immobilised
CC   on solid phase surface, and stimulating accessory molecule on T cell
CC   surface in vitro with anti-CD28 antibody, or stimulatory form of
CC   natural ligand for CD28 such as B7-1 or B7-2. The method is useful
CC   for inducing a population of T cells to proliferate in sufficient
CC   numbers for use in therapy e.g., for treating cancer or an infectious
CC   disease. The method can be used to selectively expand the
CC   population of CD28^+, CD4^+, CD8^+, CD28RA^+ or CD28RO^+ T cells for
CC   immunotherapy. The T cell population resulting by the method can be
CC   genetically transduced and used for immunotherapy or can be used for in
CC   vitro analysis of infectious agents such as human immunodeficiency
CC   virus (HIV). Proliferation of a population of CD4^+ T cells obtained
CC   from an individual infected with HIV can be achieved and the cells
CC   rendered resistant to HIV infection. Following the expansion of the T
CC   cells to sufficient numbers, the expanded T cells are restored to the
CC   individual. Also CD4^+ T cells expanded by the above mentioned is
CC   useful for treating HIV infection in an individual. A population
CC   of tumour-infiltrating lymphocytes can be obtained from an individual
CC   afflicted with cancer and the T cells stimulated to proliferate to
CC   sufficient numbers and restored to the individual. The supernatants from
CC   cultures of T cells expanded from above mentioned method are useful as a
CC   rich source of cytokines and can be used to sustain T cells in vivo or
CC   ex vivo. Stimulating and expanding a population of antigen specific
CC   T cells are useful in therapeutic conditions where it is desirable to
CC   upregulate an immune response. The T cell proliferation occurs in
CC   the absence of exogenous growth factors or accessory cells. The present
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CC   sequence is human B7-1 (CD80) transmembrane protein used in the
CC   invention.
XX
SQ   Sequence   288 AA;

  Query Match           100.0%;  Score 1149;  DB 23;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 16
AAE15829
ID   AAE15829 standard; Protein; 288 AA.
XX
AC   AAE15829;
XX
DT   26-MAR-2002  (first entry)
XX
DE   Human co-stimulatory molecule, B7-1 protein.
XX
KW   Human; vaccine; immunostimulatory molecule; interferon; IFN; therapy;
KW   antigen presentation; vaccine; tumourigenesis; cancer; cytostatic;
KW   antitumour; antibacterial; virucide; fungicide; protozoacide; B7-1.
XX
OS   Homo sapiens.
XX
PN   WO200188097-A1.
XX
PD   22-NOV-2001.
XX
PF   17-MAY-2001; 2001WO-AU00565.
XX
PR   17-MAY-2000; 2000AU-0007553.
XX
PA   (MONU ) UNIV MONASH.
XX
PI   Ralph SJ;
XX
DR   WPI; 2002-082990/11.
DR   N-PSDB; AAD25509.
XX
PT   New composition, useful for treatment and/or prophylaxis of cancer and
PT   tumor, comprises immunostimulatory molecule and animal cells cultured
PT   in presence of interferon to enhance antigen presenting function of the
PT   cells  -
XX
PS   Claim 6; Page 99-100; 127pp; English.
XX
CC   The present invention relates to a composition of matter comprising an
CC   immunostimulatory molecule and animal cells cultured in the presence of
CC   at least one interferon (IFN) for a time and under conditions sufficient
CC   to enhance the antigen presenting function of the cells. The invention
CC   is used as vaccine. The composition is useful for treatment and/or
CC   prophylaxis of tumourigenesis, cancer, viral, bacterial, fungal and
CC   protozoal infections. The composition which comprises the soluble
CC   immunostimulatory molecule and the cultured animal cells is administered
CC   separately, sequentially or simultaneously to the patient. The present
CC   sequence is human co-stimulatory molecule, B7-1 protein.
XX
SQ   Sequence   288 AA;

  Query Match           100.0%;  Score 1149;  DB 23;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 17
AAM50795
ID   AAM50795 standard; Protein; 288 AA.
XX
AC   AAM50795;
XX
DT   23-APR-2002  (first entry)
XX
DE   Human B-lymphocyte antigen B7.
XX
KW   B-lymphocyte antigen B7; human; T-cell costimulatory molecule;
KW   tumour; sarcoma; lymphoma; melanoma; neuroblastoma; leukaemia;
KW   carcinoma; cancer; metastasis; gene therapy.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..34
FT                   /label= Signal_peptide
FT   Protein         35..288
FT                   /label= Mature_protein
FT   Domain          35..242
FT                   /label= Extracellular_domain
FT   Domain          243..269
FT                   /label= Transmembrane_domain
FT   Domain          270..288
FT                   /label= Intracellular_domain
FT   Domain          35..138
FT                   /label= Ig_V-set_domain
FT   Domain          139..236
FT                   /label= Ig_C-set_domain
FT   Modified-site   53..55
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   89..91
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   98..100
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   186..188
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   207..209
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   211..213
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   226..228
FT                   /note= "Asn is N-glycosylated"
FT   Modified-site   232..234
FT                   /note= "Asn is N-glycosylated"
XX
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PN   US6319709-B1.
XX
PD   20-NOV-2001.
XX
PF   29-NOV-1999;   99US-0450798.
XX
PR   03-NOV-1993;   93US-0147772.
PR   23-SEP-1998;   98US-0159135.
XX
PA   (HARD ) HARVARD COLLEGE.
PA   (DAND ) DANA FARBER CANCER INST INC.
PA   (UYMA-) UNIV MARYLAND BALTIMORE COUNTY.
XX
PI   Ostrand-Rosenberg S,  Baskar S,  Glimcher LH,  Freeman GJ,  Nadler LM;
XX
DR   WPI; 2002-138256/18.
DR   N-PSDB; ABA91632.
XX
PT   An isolated mammalian tumour cell transfected with an exogenous nucleic
PT   acid molecule encoding a mammalian B7 molecule which can be used in
PT   methods for treating a patient with a tumour and preventing or
PT   inhibiting metastatic growth -
XX
PS   Claim 2; Column 31-34; 24pp; English.
XX
CC   The present sequence is that of human B-lymphocyte antigen B7, a
CC   member of the immunoglobulin superfamily with unique expression on
CC   activated and neoplastic cells. The invention provides tumour
CC   cells modified to express a T-cell costimulatory molecule, such as
CC   a CD28 and/or CTLA4 ligand, preferably B-lymphocyte antigen B7.
CC   The tumour cells are modified by transfection with nucleic acid
CC   encoding the T-cell costimulatory molecule, by using an agent which
CC   induces or increases expression of a T-cell costimulatory molecule
CC   on the tumour cell surface or by coupling a T-cell costimulatory
CC   molecule to the tumour cell surface. The tumour cells may be
CC   further modified to express major histocompatibility complex (MHC)
CC   class I and/or class II molecules or have an MHC associated protein,
CC   the invariant chain, inhibited. The modified tumour cells are used
CC   to treat a patient with a tumour, preventing or inhibiting
CC   metastatic spread of a tumour or preventing or inhibiting
CC   recurrence of a tumour. Modification of tumour cells in vivo
CC   makes them capable of triggering a costimulatory signal in T-cells.
CC   The tumour cell is preferably a sarcoma, lymphoma, melanoma,
CC   neuroblastoma, leukaemia or carcinoma.
XX
SQ   Sequence   288 AA;

  Query Match            100.0%;  Score 1149;  DB 23;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 18
ABU07246
ID   ABU07246 standard; Protein; 288 AA.
XX
AC   ABU07246;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1947.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia -
XX
PS   Example 2; SEQ ID No 1947; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match            100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146
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```
Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
```

RESULT 19
ABU07247
ID ABU07247 standard; Protein; 288 AA.
XX
AC ABU07247;
XX
DT 29-JAN-2003 (first entry)
XX
DE Human expressed protein tag (EPT) #1948.
XX
KW Translational profiling; expressed protein tag; EPT; kinase;
KW phosphatase; protease; protease inhibitor; transporter;
KW cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW major histocompatability complex; myeloma; colon cancer;
KW gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW leukaemia.
XX
OS Homo sapiens.
XX
PN WO200278524-A2.
XX
PD 10-OCT-2002.
XX
PF 28-MAR-2002; 2002WO-US09671.
XX
PR 28-MAR-2001; 2001US-279495P.
PR 21-MAY-2001; 2001US-292544P.
PR 08-AUG-2001; 2001US-310801P.
PR 01-OCT-2001; 2001US-326370P.
PR 04-DEC-2001; 2001US-336780P.
PR 20-FEB-2002; 2002US-358985P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Chicz RM, Tomlinson AJ, Urban RG;
XX
DR WPI; 2003-040607/03.
XX
PT New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT cytoskeletal proteins, receptors or transcription factors), useful for
PT treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT or leukemia -
XX
PS Example 2; SEQ ID No 1948; 134pp; English.
XX
CC The invention describes a purified polypeptide, which comprises a
CC fragment of a kinase, phosphatase, protease, protease inhibitor,
CC transporter, cytoskeletal protein, receptor or transcription factor.
CC The polypeptide is useful as an immunogenic composition for eliciting
CC in a mammal an immunogenic response directed against any of the purified
CC polypeptide. The purified polypeptide, or the antibody that binds to
CC this polypeptide, is useful for treating cancer. The polypeptide is
CC also useful for identifying compounds that binds to a naturally
CC processed class I or class II MHC-binding polypeptide. The polypeptides
CC and polynucleotides are particularly useful for treating or preventing
CC myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC lymphoma or leukaemia. These are also useful for screening agents for
CC treating the above mentioned diseases. This sequence represents an
CC expressed protein tag (EPT) isolated from human tissue for translational
CC profiling.
CC Note: This sequence does not appear in the printed specification but was
CC obtained in electronic format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX

SQ Sequence 288 AA;

```
  Query Match            100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
```

RESULT 20
ABU07248
ID ABU07248 standard; Protein; 288 AA.
XX
AC ABU07248;
XX
DT 29-JAN-2003 (first entry)
XX
DE Human expressed protein tag (EPT) #1949.
XX
KW Translational profiling; expressed protein tag; EPT; kinase;
KW phosphatase; protease; protease inhibitor; transporter;
KW cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW major histocompatability complex; myeloma; colon cancer;
KW gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW leukaemia.
XX
OS Homo sapiens.
XX
PN WO200278524-A2.
XX
PD 10-OCT-2002.
XX
PF 28-MAR-2002; 2002WO-US09671.
XX
PR 28-MAR-2001; 2001US-279495P.
PR 21-MAY-2001; 2001US-292544P.
PR 08-AUG-2001; 2001US-310801P.
PR 01-OCT-2001; 2001US-326370P.
PR 04-DEC-2001; 2001US-336780P.
PR 20-FEB-2002; 2002US-358985P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Chicz RM, Tomlinson AJ, Urban RG;
XX
DR WPI; 2003-040607/03.
XX
PT New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT cytoskeletal proteins, receptors or transcription factors), useful for
PT treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT or leukemia -
XX
PS Example 2; SEQ ID No 1949; 134pp; English.
XX
CC The invention describes a purified polypeptide, which comprises a
CC fragment of a kinase, phosphatase, protease, protease inhibitor,
CC transporter, cytoskeletal protein, receptor or transcription factor.
CC The polypeptide is useful as an immunogenic composition for eliciting
CC in a mammal an immunogenic response directed against any of the purified

```
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 21
ABU07249
ID   ABU07249 standard; Protein; 288 AA.
XX
AC   ABU07249;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1950.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia -
XX
PS   Example 2; SEQ ID No 1950; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 22
ABU07250
ID   ABU07250 standard; Protein; 288 AA.
XX
AC   ABU07250;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1951.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
```

XX
PF 28-MAR-2002; 2002WO-US09671.
XX
PR 28-MAR-2001; 2001US-279495P.
PR 21-MAY-2001; 2001US-292544P.
PR 08-AUG-2001; 2001US-310801P.
PR 01-OCT-2001; 2001US-326370P.
PR 04-DEC-2001; 2001US-336780P.
PR 20-FEB-2002; 2002US-358985P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Chicz RM, Tomlinson AJ, Urban RG;
XX
DR WPI; 2003-040607/03.
XX
PT New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT cytoskeletal proteins, receptors or transcription factors), useful for
PT treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT or leukemia -
XX
PS Example 2; SEQ ID No 1951; 134pp; English.
XX
CC The invention describes a purified polypeptide, which comprises a
CC fragment of a kinase, phosphatase, protease, protease inhibitor,
CC transporter, cytoskeletal protein, receptor or transcription factor.
CC The polypeptide is useful as an immunogenic composition for eliciting
CC in a mammal an immunogenic response directed against any of the purified
CC polypeptide. The purified polypeptide, or the antibody that binds to
CC this polypeptide, is useful for treating cancer. The polypeptide is
CC also useful for identifying compounds that binds to a naturally
CC processed class I or class II MHC-binding polypeptide. The polypeptides
CC and polynucleotides are particularly useful for treating or preventing
CC myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC lymphoma or leukaemia. These are also useful for screening agents for
CC treating the above mentioned diseases. This sequence represents an
CC expressed protein tag (EPT) isolated from human tissue for translational
CC profiling.
CC Note: This sequence does not appear in the printed specification but was
CC obtained in electronic format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 288 AA;

Query Match 100.0%; Score 1149; DB 24; Length 288;
Best Local Similarity 100.0%; Pred. No. 3.4e-103;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
Db 27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy 61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
Db 87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy 121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
Db 147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy 181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
Db 207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242

RESULT 23
ABU07251
ID ABU07251 standard; Protein; 288 AA.
XX
AC ABU07251;
XX
DT 29-JAN-2003 (first entry)
XX
DE Human expressed protein tag (EPT) #1952.
XX
KW Translational profiling; expressed protein tag; EPT; kinase;
KW phosphatase; protease; protease inhibitor; transporter;
KW cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW major histocompatability complex; myeloma; colon cancer;
KW gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW leukaemia.
XX
OS Homo sapiens.
XX
PN WO200278524-A2.
XX
PD 10-OCT-2002.
XX
PF 28-MAR-2002; 2002WO-US09671.
XX
PR 28-MAR-2001; 2001US-279495P.
PR 21-MAY-2001; 2001US-292544P.
PR 08-AUG-2001; 2001US-310801P.
PR 01-OCT-2001; 2001US-326370P.
PR 04-DEC-2001; 2001US-336780P.
PR 20-FEB-2002; 2002US-358985P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Chicz RM, Tomlinson AJ, Urban RG;
XX
DR WPI; 2003-040607/03.
XX
PT New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT cytoskeletal proteins, receptors or transcription factors), useful for
PT treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT or leukemia -
XX
PS Example 2; SEQ ID No 1952; 134pp; English.
XX
CC The invention describes a purified polypeptide, which comprises a
CC fragment of a kinase, phosphatase, protease, protease inhibitor,
CC transporter, cytoskeletal protein, receptor or transcription factor.
CC The polypeptide is useful as an immunogenic composition for eliciting
CC in a mammal an immunogenic response directed against any of the purified
CC polypeptide. The purified polypeptide, or the antibody that binds to
CC this polypeptide, is useful for treating cancer. The polypeptide is
CC also useful for identifying compounds that binds to a naturally
CC processed class I or class II MHC-binding polypeptide. The polypeptides
CC and polynucleotides are particularly useful for treating or preventing
CC myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC lymphoma or leukaemia. These are also useful for screening agents for
CC treating the above mentioned diseases. This sequence represents an
CC expressed protein tag (EPT) isolated from human tissue for translational
CC profiling.
CC Note: This sequence does not appear in the printed specification but was
CC obtained in electronic format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 288 AA;

Query Match 100.0%; Score 1149; DB 24; Length 288;
Best Local Similarity 100.0%; Pred. No. 3.4e-103;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
Db 27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy 61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
Db 87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy 121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
Db 147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

```
Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 24
ABU07254
ID   ABU07254 standard; Protein; 288 AA.
XX
AC   ABU07254;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1955.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia  -
XX
PS   Example 2; SEQ ID No 1955; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 25
ABU07255
ID   ABU07255 standard; Protein; 288 AA.
XX
AC   ABU07255;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1956.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia  -
XX
PS   Example 2; SEQ ID No 1956; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
```

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CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 26
ABU07257
ID   ABU07257 standard; Protein; 288 AA.
XX
AC   ABU07257;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1958.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia  -
XX
PS   Example 2; SEQ ID No 1958; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              |||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 27
ABU07260
ID   ABU07260 standard; Protein; 288 AA.
XX
AC   ABU07260;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1961.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
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PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia  -
XX
PS   Example 2; SEQ ID No 1961; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 28
ABU07261
ID   ABU07261 standard; Protein; 288 AA.
XX
AC   ABU07261;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1962.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia  -
XX
PS   Example 2; SEQ ID No 1962; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
```

```
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242

RESULT 29
ABU07265
ID   ABU07265 standard; Protein; 288 AA.
XX
AC   ABU07265;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1966.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia -
XX
PS   Example 2; SEQ ID No 1966; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match           100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity  100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 30
ABU07266
ID   ABU07266 standard; Protein; 288 AA.
XX
AC   ABU07266;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1967.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia -
XX
PS   Example 2; SEQ ID No 1967; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
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CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 31
ABU07267
ID   ABU07267 standard; Protein; 288 AA.
XX
AC   ABU07267;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1968.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
PR   01-OCT-2001; 2001US-326370P.
PR   04-DEC-2001; 2001US-336780P.
PR   20-FEB-2002; 2002US-358985P.
XX
PA   (ZYCO-) ZYCOS INC.
XX
PI   Chicz RM,  Tomlinson AJ,  Urban RG;
XX
DR   WPI; 2003-040607/03.
XX
PT   New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT   cytoskeletal proteins, receptors or transcription factors), useful for
PT   treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT   or leukemia -
XX
PS   Example 2; SEQ ID No 1968; 134pp; English.
XX
CC   The invention describes a purified polypeptide, which comprises a
CC   fragment of a kinase, phosphatase, protease, protease inhibitor,
CC   transporter, cytoskeletal protein, receptor or transcription factor.
CC   The polypeptide is useful as an immunogenic composition for eliciting
CC   in a mammal an immunogenic response directed against any of the purified
CC   polypeptide. The purified polypeptide, or the antibody that binds to
CC   this polypeptide, is useful for treating cancer. The polypeptide is
CC   also useful for identifying compounds that binds to a naturally
CC   processed class I or class II MHC-binding polypeptide. The polypeptides
CC   and polynucleotides are particularly useful for treating or preventing
CC   myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC   lymphoma or leukaemia. These are also useful for screening agents for
CC   treating the above mentioned diseases. This sequence represents an
CC   expressed protein tag (EPT) isolated from human tissue for translational
CC   profiling.
CC   Note: This sequence does not appear in the printed specification but was
CC   obtained in electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   288 AA;

  Query Match             100.0%;  Score 1149;  DB 24;  Length 288;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-103;
  Matches  216;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242


RESULT 32
ABU07268
ID   ABU07268 standard; Protein; 288 AA.
XX
AC   ABU07268;
XX
DT   29-JAN-2003  (first entry)
XX
DE   Human expressed protein tag (EPT) #1969.
XX
KW   Translational profiling; expressed protein tag; EPT; kinase;
KW   phosphatase; protease; protease inhibitor; transporter;
KW   cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW   major histocompatability complex; myeloma; colon cancer;
KW   gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200278524-A2.
XX
PD   10-OCT-2002.
XX
PF   28-MAR-2002; 2002WO-US09671.
XX
PR   28-MAR-2001; 2001US-279495P.
PR   21-MAY-2001; 2001US-292544P.
PR   08-AUG-2001; 2001US-310801P.
```

PR 01-OCT-2001; 2001US-326370P.
PR 04-DEC-2001; 2001US-336780P.
PR 20-FEB-2002; 2002US-358985P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Chicz RM, Tomlinson AJ, Urban RG;
XX
DR WPI; 2003-040607/03.
XX
PT New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT cytoskeletal proteins, receptors or transcription factors), useful for
PT treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT or leukemia -
XX
PS Example 2; SEQ ID No 1969; 134pp; English.
XX
CC The invention describes a purified polypeptide, which comprises a
CC fragment of a kinase, phosphatase, protease, protease inhibitor,
CC transporter, cytoskeletal protein, receptor or transcription factor.
CC The polypeptide is useful as an immunogenic composition for eliciting
CC in a mammal an immunogenic response directed against any of the purified
CC polypeptide. The purified polypeptide, or the antibody that binds to
CC this polypeptide, is useful for treating cancer. The polypeptide is
CC also useful for identifying compounds that binds to a naturally
CC processed class I or class II MHC-binding polypeptide. The polypeptides
CC and polynucleotides are particularly useful for treating or preventing
CC myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC lymphoma or leukaemia. These are also useful for screening agents for
CC treating the above mentioned diseases. This sequence represents an
CC expressed protein tag (EPT) isolated from human tissue for translational
CC profiling.
CC Note: This sequence does not appear in the printed specification but was
CC obtained in electronic format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 288 AA;

Query Match 100.0%; Score 1149; DB 24; Length 288;
Best Local Similarity 100.0%; Pred. No. 3.4e-103;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
Db 27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy 61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
Db 87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy 121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
Db 147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy 181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
Db 207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242

RESULT 33
ABU07269
ID ABU07269 standard; Protein; 288 AA.
XX
AC ABU07269;
XX
DT 29-JAN-2003 (first entry)
XX
DE Human expressed protein tag (EPT) #1970.
XX
KW Translational profiling; expressed protein tag; EPT; kinase;
KW phosphatase; protease; protease inhibitor; transporter;
KW cytoskeletal protein; receptor; transcription factor; cancer; MHC;
KW major histocompatability complex; myeloma; colon cancer;
KW gastric cancer; adenocarcinoma; sarcoma; melanoma; lymphoma;
KW leukaemia.
XX
OS Homo sapiens.
XX
PN WO200278524-A2.
XX
PD 10-OCT-2002.
XX
PF 28-MAR-2002; 2002WO-US09671.
XX
PR 28-MAR-2001; 2001US-279495P.
PR 21-MAY-2001; 2001US-292544P.
PR 08-AUG-2001; 2001US-310801P.
PR 01-OCT-2001; 2001US-326370P.
PR 04-DEC-2001; 2001US-336780P.
PR 20-FEB-2002; 2002US-358985P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Chicz RM, Tomlinson AJ, Urban RG;
XX
DR WPI; 2003-040607/03.
XX
PT New polypeptides (e.g. kinases, phosphatases, proteases, transporters,
PT cytoskeletal proteins, receptors or transcription factors), useful for
PT treating cancer, e.g. colon cancer, gastric cancer, sarcoma, lymphoma
PT or leukemia -
XX
PS Example 2; SEQ ID No 1970; 134pp; English.
XX
CC The invention describes a purified polypeptide, which comprises a
CC fragment of a kinase, phosphatase, protease, protease inhibitor,
CC transporter, cytoskeletal protein, receptor or transcription factor.
CC The polypeptide is useful as an immunogenic composition for eliciting
CC in a mammal an immunogenic response directed against any of the purified
CC polypeptide. The purified polypeptide, or the antibody that binds to
CC this polypeptide, is useful for treating cancer. The polypeptide is
CC also useful for identifying compounds that binds to a naturally
CC processed class I or class II MHC-binding polypeptide. The polypeptides
CC and polynucleotides are particularly useful for treating or preventing
CC myeloma, colon cancer, gastric cancer, adenocarcinoma, sarcoma, melanoma,
CC lymphoma or leukaemia. These are also useful for screening agents for
CC treating the above mentioned diseases. This sequence represents an
CC expressed protein tag (EPT) isolated from human tissue for translational
CC profiling.
CC Note: This sequence does not appear in the printed specification but was
CC obtained in electronic format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 288 AA;

Query Match 100.0%; Score 1149; DB 24; Length 288;
Best Local Similarity 100.0%; Pred. No. 3.4e-103;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
Db 27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy 61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
Db 87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy 121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
Db 147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy 181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
Db 207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242

RESULT 34
AAW41415
ID AAW41415 standard; Protein; 473 AA.
XX
AC AAW41415;
XX
DT 02-JUN-1998 (first entry)
XX
DE Human B7.1-murine A5B7 F(ab')2 fusion protein.
XX
KW Anti-CEA antibody; carcinoembryonic antigen; 806.077 Ab; cancer therapy;
KW cancer diagnosis; complementarity determining region.
XX
OS Chimeric - Homo sapiens.
OS Chimeric - Mus sp.
XX
PN WO9742329-A1.
XX
PD 13-NOV-1997.
XX
PF 29-APR-1997; 97WO-GB01165.
XX
PR 14-FEB-1997; 97GB-0003103.
PR 04-MAY-1996; 96GB-0009405.
XX
PA (ZENE) ZENECA LTD.
XX
PI Copley CG, Edge MD, Emery SC;
XX
DR WPI; 1997-558987/51.
DR N-PSDB; AAV17340.
XX
PT Anti-carcinoembryonic antigen antibody 806.077 Ab - used for
PT diagnosis and therapy of cancer .
XX
PS Reference Example 3; Page 190-193; 208pp; English.
XX
CC This sequence is the human B7.1-murine A5B7 F(ab')2 fusion protein
CC (AB7), and is an example of the antibody of the invention. The antibody
CC is an anti-CEA (carcinoembryonic antigen) antibody (preferably
CC 806.077 Ab). Host cells or transgenic organisms transformed with DNA
CC encoding the antibody, are used to make the antibody or conjugate. The
CC conjugate is used in a medicament suitable for intravenous
CC administration. The conjugate can be used for cancer therapy, selectively
CC killing tumour cells. The antibody can be used for in vivo or in vitro
CC diagnosis of cancer.
XX
SQ Sequence 473 AA;

Query Match 100.0%; Score 1149; DB 18; Length 473;
Best Local Similarity 100.0%; Pred. No. 6.9e-103;
Matches 216; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86

Qy         61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146

Qy        121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206

Qy        181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
              ||||||||||||||||||||||||||||||||||||
Db        207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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